6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[OAR 2002-0083; FRL-]

RIN 2060-AE48

National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates national emission standards for hazardous air pollutants (NESHAP) for integrated iron and steel manufacturing facilities. The final standards establish emission limitations for hazardous air pollutants (HAP) emitted from new and existing sinter plants, blast furnaces, and basic oxygen process furnace (BOPF) shops. The final standards will implement section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet HAP emission standards reflecting application of the maximum achievable control technology (MACT).

The HAP emitted by integrated iron and steel manufacturing facilities include metals (primarily manganese and lead with small quantities of other metals) and trace amounts of organic HAP (such as polycyclic

organic matter, benzene, and carbon disulfide). Exposure to these substances has been demonstrated to cause adverse health effects, including chronic and acute disorders of the blood, heart, kidneys, reproductive system, and central nervous system.

EFFECTIVE DATE: [INSERT DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

ADDRESSES: Docket. The official public docket is the collection of materials used in developing the final rule and is available for public viewing at the EPA Docket Center (EPA/DC), EPA West, Room B102, 1301 Constitution Ave., NW, Washington, DC 20004.

FOR FURTHER INFORMATION CONTACT: Phil Mulrine, Metals Group (C439-02), Emission Standards Division, U.S. EPA, Research Triangle Park, NC 27711, telephone number (919) 541-5289, electronic mail (e-mail) address, mulrine.phil@epa.gov.

SUPPLEMENTARY INFORMATION:

Regulated Entities. Categories and entities potentially regulated by this action include:

Category	NAICS code*	Example of regulated entities

Industry	331111	Integrated iron and steel mills, steel companies, sinter plants, blast furnaces, BOPF shops.
Federal government		Not affected.
State/local/tribal government		Not affected.

* North American Industry Classification System

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility is regulated by this action, you should examine the applicability criteria in §63.7781 of the final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding FOR FURTHER INFORMATION CONTACT section.

Docket. The EPA has established an official public docket for this action under Docket ID No. OAR-2002-0083. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the Air Docket in the EPA Docket Center (EPA/DC), EPA West, Room B102, 1301 Constitution Ave., NW, Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

Electronic Docket Access. You may access the final rule electronically through the EPA Internet under the "Federal Register" listings at http://www.epa.gov/fedrgstr/.

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at http://www.epa.gov/edocket/ to view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Although not all docket materials may be available electronically, you may still access any of the publicly available docket materials through the docket facility in the above paragraph entitled "Docket." Once in the system, select "search," then key in the appropriate docket identification number.

Worldwide Web (WWW). In addition to being available in the docket, an electronic copy of the final rule will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the final rule will be placed on the TTN's policy and guidance page for newly proposed or promulgated rules at http://www.epa.gov/ttn/oarpg. The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541-5384.

Judicial Review. This action constitutes final administrative action on the proposed NESHAP for integrated iron and steel manufacturing facilities (66 FR 36836, July 13, 2001). Under CAA section 307(b)(1), judicial review of the final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]. Under CAA section 307(b)(2), the requirements that are the subject of this document may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

Outline. The information presented in this preamble is organized as follows:

I. Background

Section 112(d) of the CAA requires us (the EPA) to establish national emission standards for all categories and subcategories of major sources of HAP and for area sources listed for regulation under section 112(c). Major sources are those that emit or have the potential to emit at least 10 tons per year (tpy) of any single HAP or 25 tpy of any combination of HAP. Area sources are stationary sources of HAP that are not major sources. Additional information on the NESHAP development process can be found in the preamble to the proposed rule (66 FR 36836).

We received a total of 16 comment letters on the proposed NESHAP from industry and trade association representatives, State agencies, industry experts, environmental groups, universities, and private citizens. We offered to provide interested individuals the opportunity for oral presentations of data, views, or arguments concerning the proposed rule, but a public hearing was not requested.

Today's final rule reflects our full consideration of all the comments we received. Major public comments on the proposed rule along with our responses to these comments are summarized in section III of this document. A detailed response to all the comments is included in the Background Information Document (BID) for the Promulgated Standards (Docket ID No. OAR-2002-0083).

II. Summary of Final Rule

A. Who must comply with the final rule?

Each owner or operator of an affected source at an integrated iron and steel manufacturing facility that is (or is part of) a major source of HAP emissions must comply with the final rule.

B. What are the affected sources and emission points?

The affected sources are each new or existing sinter plant, blast furnace, and BOPF shop at an integrated iron and steel manufacturing facility that is (or is part of) a major source of HAP emissions. Emission limitations apply to the sinter plant windbox exhaust, discharge end, and sinter cooler; the blast furnace casthouse; and the BOPF shop including each furnace and ancillary operations (hot metal transfer, hot metal desulfurization, slag skimming, and ladle metallurgy). These processes, as well as their emissions and controls, are described in the preamble to the proposed rule (66 FR 36838-36839).

C. What are the emission limitations?

The final rule includes particulate matter (PM) emission limits and opacity limits as well as operating limits for capture systems and control devices. An operating limit also applies either to the oil content of the sinter plant feedstock or to the volatile organic compound (VOC) emissions from the sinter plant windbox exhaust stream. Particulate matter and opacity serve as surrogate measures of HAP emissions.

1. Sinter Plants

The PM emission limits for a windbox exhaust stream are 0.4 pounds per ton (lb/ton) of product sinter for an existing sinter plant and 0.3 lb/ton for a new sinter plant. The final rule limits PM emissions from a discharge end to 0.02 grains per dry standard cubic foot (gr/dscf) for an existing plant and 0.01 gr/dscf for a new plant. The discharge end PM limits are a flow-weighted average when multiple control devices are operated in parallel. A 20 percent opacity limit applies to fugitive emissions from a discharge end at an existing sinter plant; a 10 percent opacity limit applies to a new sinter plant (both are 6-minute averages). The PM emission limits for sinter cooler stacks are 0.03 gr/dscf for an existing plant and 0.01 gr/dscf for a new plant. If the sinter cooler is vented to the same control device as the discharge end, the PM limit is 0.02 gr/dscf for an existing plant and 0.01 gr/dscf for a new plant.

2. Blast Furnaces

The PM emission limits for a control device applied to emissions from a casthouse are 0.01 gr/dscf for an existing blast furnace and 0.003 gr/dscf for a new blast furnace. The opacity limits for fugitive emissions from a casthouse are 20 percent for an existing blast furnace and 15 percent for a new blast furnace (both are 6-minute averages).

3. BOPF Shops

For primary emissions from BOPF, different PM emission limits apply based on the type of hood system (closed or open). For BOPF with closed hood systems at a new or existing BOPF shop, the PM emission limit is 0.03 gr/dscf, and it only applies during periods of primary oxygen blow. The primary oxygen blow is the period in which oxygen is initially blown into the furnace and does not include any subsequent reblows. For BOPF with open hood systems, the PM emission limits are 0.02 gr/dscf for an existing BOPF shop and 0.01 gr/dscf for a new BOPF shop. These emission limits apply during all periods of the steel production cycle. The steel production cycle begins when the furnace is first charged with scrap and ends 3 minutes after slag is removed. The BOPF limits are a flow-weighted average when multiple control devices are operated in parallel.

The PM emission limits for a control device applied solely to secondary emissions from a BOPF are 0.01 gr/dscf for an existing BOPF shop and 0.0052 gr/dscf for a new BOPF shop. Secondary emissions are those not controlled by the primary emission control system, including emissions that escape from open and closed hoods and openings in the ductwork to the primary control system.

For the BOPF shop, the PM emission limit for a control device applied to emissions from ancillary operations (hot metal transfer, skimming, and desulfurization) is 0.01 gr/dscf for an existing BOPF shop and 0.003 for a new BOPF shop. The PM emission limits for ladle metallurgy operations are 0.01 gr/dscf for an existing BOPF shop and 0.004 gr/dscf for a new BOPF shop.

For the BOPF roof monitor, a 20 percent opacity limit applies to fugitive emissions from the BOPF or BOPF shop operations in an existing BOPF shop. This opacity limit is based on 3-minute averages. For a new BOPF shop housing a bottom-blown furnace, a 10 percent opacity limit applies (6-minute average) except that one 6-minute period not to exceed 20 percent may occur once during each steel production cycle. For a new BOPF shop housing a top-blown furnace, a 10 percent opacity limit applies (3-minute average) except that one 3-minute period greater than 10 percent but less than 20 percent may occur once during each steel production cycle.

4. Capture Systems

We revised the requirements for capture systems to allow plants to choose operating parameters appropriate for assessing capture system performance, establish the values or settings for the parameters, and designate monitoring requirements. At a minimum, the limits must indicate the level of the ventilation draft and damper position settings. Plants must include information to support their selected parameter(s) in their operation and maintenance plan (including other process configurations that may be used) and certify in their performance test report that during the tests, the capture system operated at the limit(s) established in their plan.

5. Operating Limits

For bag leak detection systems, we require that corrective actions be initiated within 1 hour of a bag leak detection system alarm. For a venturi scrubber, the hourly average pressure drop and scrubber water flow rate must remain at or above the level established during the initial performance test. Plants using an electrostatic precipitator (ESP) must install and operate a continuous opacity monitoring system (COMS) according to Performance Specification 1 in 40 CFR part 60, appendix B. The average opacity for each 6-minute period must remain at or below the site-specific limit. The final rule uses a statistical approach, requiring that the limit be based on the COMS average corresponding to the 99 percent upper confidence limit on the mean of a normal distribution of average opacity values established during the initial performance test. Plants must submit information on monitoring parameters if another type of control device is used.

The final rule requires sinter plants to maintain the oil content of the feedstock at or below 0.02 percent. This limit is based on a 30-day rolling average. We are including an alternative VOC limit of 0.2 pound of VOC per ton (lb/ton) of sinter produced. This limit is also based on a 30-day rolling average.

D. <u>What are the operation and maintenance requirements</u>?

All plants subject to the final rule must prepare and implement a written startup, shutdown, and malfunction plan according to the requirements in 40 CFR 63.6(e). A written operation and maintenance plan is also required for capture systems and control devices subject to an operating limit. This plan must describe procedures for monthly inspections of capture systems, preventative maintenance requirements for control devices, and corrective action requirements for baghouses. To avoid potential implementation issues, we have added specific descriptions of the equipment to be inspected and a requirement to correct any deficiency or defect as soon as practicable. In the event of a bag leak detection system alarm, the plan must include specific requirements for initiating corrective action to determine the cause of the problem within 1 hour, initiating corrective action to fix the problem within 24 hours, and completing all corrective actions needed to fix the problem as soon as practicable. If applicable, the plan also must include procedures for determining and recording the sinter plant production rate.

E. What are the general compliance requirements?

The final rule requires compliance with the emission limitations and operation and maintenance requirements at all times, except during periods of startup, shutdown, and malfunction as defined in 40 CFR 63.2. The owner or operator must develop and implement a written startup, shutdown, and malfunction plan according to the requirements in 40 CFR 63.6(e)(3).

The final rule also requires keeping a log detailing the operation and maintenance of the process and emission control equipment. This requirement applies during the period between the compliance date and the date that continuous monitoring systems are installed and any operating limits set.

F. What are the initial compliance requirements?

The final rule requires performance tests to demonstrate that each affected source meets all applicable emission and opacity limits. The final rule allows the owner or operator to conduct representative sampling of stacks where there are more than three stacks associated with a process (subject to approval by the permitting authority). The PM concentration (front-half filterable catch only) is to be measured using EPA Method 5, 5D, or 17 in 40 CFR part 60, appendix A. The EPA Method 9 in 40 CFR part 60, appendix A, is required for determining the opacity of emissions, with instructions for computing 6-minute and 3-minute block averages.

The final rule also includes procedures for establishing site-specific operating limits for control devices during the performance test. We have also included procedures to be followed during opacity tests to ensure capture systems operate at the limits established in the operation and maintenance plan.

The final rule requires a performance test to demonstrate initial compliance with the operating limit for the oil content of the sinter plant feedstock using OSW 846 Method 9071B (Revision 2, April 1998). Plants must sample for 30 consecutive days and compute the 30-day rolling average for each operating day. Plants electing the alternative operating limit must conduct a performance test by sampling VOC emissions and analyzing the samples according to EPA Method 25 in 40 CFR part 60, appendix A. Plants may use an alternative method that has been previously approved by the permitting authority in lieu of OSW 846 Method 9071B for oil content or EPA Method 25 for VOC emissions.

To demonstrate initial compliance with the operation and maintenance requirements, owners or operators must prepare the operation and maintenance plan, certify in the performance test report that capture systems operated at the limits established in the operation and maintenance plan, and submit their notification of compliance status. In the notification of compliance status, the owner or operator must certify that the capture systems will be operated at the limits established in the plan.

G. What are the continuous compliance requirements?

Plant owners or operators must conduct PM and opacity performance tests at least twice during each title V operating permit term (at midterm and renewal). Owners or operators also must monitor operating parameters for capture systems and control devices subject to operating limits, and carry out the procedures in their operation and maintenance plan.

To demonstrate continuous compliance with the operating limit for the oil content of sinter plant feedstock, owners or operators must determine the oil content every 24 hours (from the composite of at least three samples taken at 8-hour intervals) and compute and record the 30-day rolling average percent oil content of sinter feed for each operating day. Plants electing the alternative limit must determine VOC emissions every 24 hours (from at least three samples taken at 8-hour intervals) and compute and record the 30-day rolling average emissions (in lb/ton of sinter) for each operating day.

The final rule requires a continuous parameter monitoring system (CPMS) to measure and record operating parameters for capture systems subject to an operating limit. Dampers that are manually set and remain in the same position are exempt from the CPMS requirement. For dampers that are not manually set and remain in the same position, the final rule requires a daily visual check (every 24 hours) to verify they are in the correct positions.

For baghouses, owners or operators are required to monitor the relative change in PM loading using a bag leak detection system and make inspections at specified intervals. The bag leak detection system must be installed and operated according to the EPA guidance document “Fabric Filter Bag Leak Detection Guidance,” EPA 454/R-98-015, September 1997. The document is available on the TTN at http://www.epa.gov/ttnemc01/cem/tribo.pdf. If the system does not work based on the triboelectric effect, it must be installed and operated consistent with the manufacturer’s written specifications and recommendations. The basic inspection requirements include daily, weekly, monthly, or quarterly inspections of specified parameters or mechanisms with monitoring of bag cleaning cycles by an appropriate method. To demonstrate continuous compliance, the final rule requires records documenting conformance with the operation and maintenance plan, as well as the inspection and maintenance procedures.

For venturi scrubbers, owners or operators must use CPMS to measure and record the hourly average pressure drop and scrubber water flow rate. For ESP, owners or operators must use COMS to measure and record the average opacity of emissions exiting each stack of the control device for each 6-minute period. Owners or operators must operate and maintain the COMS according to the requirements in 40 CFR 63.8 and Performance Specification 1 in 40 CFR part 60, appendix B. These requirements include a quality control program including a daily calibration drift assessment, quarterly performance audit, and annual zero alignment.

The final rule requires owners or operators to prepare a site-specific monitoring plan for CPMS that addresses installation, performance, operation and maintenance, quality assurance, and recordkeeping and reporting procedures. These requirements replace the more detailed performance specifications contained in the proposed rule.

To demonstrate continuous compliance, owners or operators must keep records documenting compliance with the monitoring requirements (including installation, operation, and maintenance requirements for monitoring systems) and the operation and maintenance plan.

H. <u>What are the notification, recordkeeping, and reporting requirements</u>?

The notification, recordkeeping, and reporting requirements are based on the NESHAP General Provisions in 40 CFR part 63, subpart A. Table 4 to subpart FFFFF lists each of the requirements in the General Provisions (§§63.2 through 63.15) with an indication of whether they apply.

The plant owner or operator must submit each initial notification required in the NESHAP General Provisions that applies to their facility. These include an initial notification of applicability with general information about the facility and notifications of performance tests, performance evaluations, and compliance status.

Owners or operators are required to maintain the records required by the NESHAP General Provisions that are needed to document compliance, such as performance test results; copies of startup, shutdown, and malfunction plans and associated corrective action records; monitoring data; and inspection records. Except for the operation and maintenance plan for capture systems and control devices, all records must be kept for a total of 5 years, with the records from the most recent 2 years kept onsite. The final rule requires that the operation and maintenance plan for capture systems and control devices subject to an operating limit be kept onsite and available for inspection upon request for the life of the affected source or until the affected source is no longer subject to the final rule requirements.

We clarified the recordkeeping requirements required to demonstrate compliance with the operating limit for sinter plants. The final rule requires records of the sampling date and time, sampling values (oil content or VOC measurements), sinter produced (tons/day), and the 30-day rolling average for each operating day.

Semiannual reports are required for any deviation from an emission limitation (including an operating limit) or operation and maintenance requirement. Each report is due no later than 30 days after the end of the reporting period. If no deviation occurs, only a summary report is required. If a deviation does occur, more detailed information is required.

An immediate report is required if actions taken during a startup, shutdown, or malfunction are not consistent with the startup, shutdown, and malfunction plan. Deviations that occur during a period of startup, shutdown, or malfunction are not violations if the owner or operator demonstrates to the authority with delegation for enforcement that the source was operating in accordance with the startup, shutdown, and malfunction plan.

I. What are the compliance deadlines?

The owner or operator of an existing affected source must comply by [INSERT DATE 3 YEARS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]. An existing affected source is one constructed or reconstructed before July 13, 2001. We changed the compliance date for existing affected sources from 2 years to 3 years after the effective date because some plants must install new capture and control systems and perform significant upgrades of primary emission control systems.

In the final rule, we have corrected a printing error that incorrectly listed the date defining a new affected source as July 23, 2001. A new affected source is one constructed or reconstructed on or after July 13, 2001. New or reconstructed sources that startup on or before the effective date of today's final rule must comply by [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER]. New or reconstructed sources that startup after the effective date of the final rule must comply upon initial startup.

III. Summary of Responses to Major Comments

A. How did we develop the MACT floors?

We stated in the proposal preamble that we may take alternative approaches to establish a MACT floor, depending on the type, quality, and applicability of available data. The three approaches most commonly used involve: (1) reliance on State regulations or permit limits in conjunction with emission test data; (2) use of emissions test data alone to estimate actual emissions; and (3) use of control technology information in conjunction with emission test data to estimate actual emissions performance. In practice, regardless of what approach we select, we attempt to ensure that our emissions performance estimates reasonably characterize the level of performance that the relevant sources consistently achieve, considering normal operational variability.

Comment. One commenter contends that EPA may use State regulations or permit limits to set floors only to the extent that such regulations and limits provide a demonstrably accurate picture of the relevant best source’s actual performance. The commenter also states that EPA may only use the performance of a chosen floor technology to set floors if such technology is the only factor influencing the relevant best sources' actual performance. In addition, the floor must reflect actual performance, not what EPA thinks is achievable with a particular technology. The commenter concludes that all of EPA's floors suffer from the same basic defect in that "...they do not represent the actual performance of the relevant best sources."

Response. While EPA may use any reasonable approach to estimate the emissions control achieved in practice by the best-controlled similar source and the average emissions limitation achieved by the best-performing 12 percent of units in a category (or best 5 units for categories of less that 30 sources), we generally agree with the commenter that it is preferable to use actual performance test data to determine the MACT floor when there are adequate such data available to reasonably characterize the level of performance of the relevant sources. Our approach to identifying the MACT floors and establishing emission limits for the various emission points at integrated iron and steel facilities is consistent with this preference. Nonetheless, we did use State regulations and permit limits in some instances to help us estimate the MACT floor level of performance for certain emission points for which we have limited emission test data. However, in each case where we used such information, we also evaluated the available emission test data and other factors (such as type of control technology and the design parameters that affect performance) to confirm that the State limits reasonably reflect the actual performance of the best units.

In those instances where we had a sufficient quantity of emission test data to reasonably estimate the performance of the relevant best units, we applied a statistical approach to confirm and refine the emission estimates from proposal. This process involved application of a statistical approach to determine the average emission limitation achieved and account for normal operational variability. As described below, this approach ensures that the emissions estimates used to identify the MACT floors reasonably reflect the level of control that is actually achieved by the relevant units over time, and under the most adverse foreseeable circumstances. (The full supplemental analysis is documented in the docket.) We had adequate test data to apply this approach to the emission limits for the sinter plant windboxes, casthouse control devices, primary control systems on open and closed hood BOPF, and control devices applied to hot metal transfer, desulfurization, and ladle metallurgy.

For each of these emission points we confirmed and refined our earlier estimates of the performance of the relevant best-performing units used to identify the MACT floors. At proposal, we estimated the performance of the best-controlled sources by identifying the best control technology that had been demonstrated for each source. We then evaluated the available data for sources using the best control technology and established emission limits for new and existing sources based on the level of control that sources with the technology had achieved.

Conceptually, our approach to estimating the performance of the best-controlled units is relatively straightforward. While we believe each emissions source test gives a good indication of the level of control achieved by the control device during the time of the emissions test, we do not believe a single emissions source test can be used as an estimate of the long term emissions performance achieved by that source. Normal variations in process and control device performance and other factors, such as the inherent imprecision of sampling and analysis, which cannot be controlled, will result in variability in the performance of every source over time, including the best-performing sources. We believe that the MACT floor performance level must reasonably account for the ordinary variability in the performance of the best-controlled sources over time and under the most adverse circumstances which can reasonably be expected to occur. As such, the MACT floor performance limit must include a consideration for the variability inherent in the process operations and the control device performance.

For today’s final rule, when emissions source test data were available, we used a statistical method to confirm and refine the emission estimates used at proposal to identify the MACT floors for the relevant units. For each case where emissions source test data were available, we estimated the emissions limitation achieved for each source at the 95th percentile using the one-sided z-statistic test (i.e., the emission limitation which the emission point is estimated to be able to achieve 95 percent of the time). Assuming a normal distribution, the 95th percentile is 1.645 standard deviations above the mean. We chose the median of the 95th percentiles of the top-performing sources as the MACT floor. We used the median as the most representative estimate of the average emission limitation achieved by the best-performing five sources because the median points to the performance of an actual unit, with a specific combination of process operations and control device performance.

We evaluated several options to estimate the standard deviation that is needed to perform the analysis. We decided not to estimate the standard deviation for each source based on the available emissions data for just that one source since we have only three data points for most sources to use in estimating the standard deviation - one data point for each run in a three run emissions source test. Instead, we calculated a relative standard deviation (RSD) for each test and then averaged the RSD to provide our best estimate of the variability of the test data. The RSD is the standard deviation divided by the mean. The RSD provides a way to estimate the standard deviation for different values of the mean when there are too few data points to calculate the standard deviation directly. We believe this method adequately accounts for the normal variability in emissions source test data and provides a reasonable estimate of the long term emissions limitation achieved.

For new sources, the MACT floor is the emissions control that is achieved in practice by the best-controlled similar source. In order to confirm and refine our emissions estimates for new sources, we identified the best-controlled source based on test data and applied the same statistical techniques to determine the emission limitation achieved in practice for new sources. We calculated the upper 95th percentile of performance for the best-controlled source, and we chose this value as the emission limitation that can be achieved by new sources.

We believe the statistical technique used to account for general variability is appropriate and reasonable. However, we also recognize that some of the empirical test data may imply a level of accuracy that is not present throughout the entire data set. As a result, we have some reservations about identifying a MACT floor with a level of accuracy that is not warranted by the underlying data. Accordingly, we have concluded that it is appropriate in some instances to round the results to two decimal places. This approach encompasses the specific statistically-derived numbers, while acknowledging that there is some residual uncertainty about the representativeness of the data. Thus, while we believe generally that our use of the 95th percentile adequately identifies the range of actual performance of individual facilities, our rounding approach should alleviate any concerns regarding whether the statistics sufficiently capture the full range of ordinary performance of the best-performing units over time and under the most adverse circumstances that can be reasonably expected to occur.

Changes resulting from rounding will have no practical effect on how industry responds to the emission limitations. That is, the control technology needed is exactly the same and the equipment must be operated in the same manner regardless of whether the numbers are rounded or not. A properly designed and operated control device will still be required to meet the rounded emission limit. Today's final rule has provisions for operating parameters and operation and maintenance plans to ensure proper operation. Thus, other than serving to better reflect uncertainties in the underlying data, the rounding has no practical impact on the stringency of the requirements.

Additional information on the statistical analysis used to confirm and refine our emissions estimates, including the data used and the complete ranking of sources, is available in the docket.

The objective of both the MACT floor methodology used at proposal, and the methodology used here to confirm and refine the proposed estimates of performance, is exactly the same. For each relevant operation at integrated iron and steel facilities, both approaches expressly are intended to provide a quantified estimate of the emission performance of the best-controlled similar source, or of the average emission limitation achieved by the relevant best-performing sources in the category, taking into consideration the ordinary and unavoidable variations in process operations and performance of the emissions control equipment.

Moreover, the conclusions growing from the supplemental statistical analysis, regarding the levels of performance that reflect the MACT floor for both new and existing units, in large measure simply confirm that the analysis underlying the proposal provided a reasonable estimation of performance.

Indeed, none of the refinements to our performance estimates will have any practical effect on how industry responds to the emission limitations. As is the case with our decision to round the emission estimates, any changes in the emission limitations in the final rule will require the same control technology as would have been needed to meet the proposed limits, and the control equipment will need to be operated in the same manner as would have been the case with the proposed emission limitations.

For three emission points (sinter cooler, sinter plant discharge end, and control devices for BOPF fugitive emissions), we had only one or two test results. Consequently, we did not have an adequate set of emissions test data to directly estimate the actual performance of the top-performing sources. Consequently, we developed the floors for these three emission points based on the facilities subject to the most stringent State regulations or permit limits, and we used the available emissions information (emissions data and a characterization of the operational processes and emissions controls) to confirm that the identified State limits reasonably reflect the actual performance of the relevant best-performing units. That is, the best units are able to achieve the required State limits but are not consistently achieving a level of emissions performance that is more stringent than the State limits. The EPA may use State limits as long as we demonstrate that such limits provide a reasonable estimate of the actual performance of the best-performing sources.

For floors based on State opacity regulations that limit fugitive emissions, we collected additional data and found that sources are achieving a level of performance that is within the current limits, but they are not consistently achieving a level of control more stringent than the identified State limits. Consequently, we believe these State limits provide an accurate picture of the best sources' actual performance considering inherent and unavoidable variability. We used this approach to develop the MACT floor for opacity from the sinter plant discharge end, blast furnace casthouse, and BOPF shop.

We provide additional rationale in the following sections where we discuss in detail the development of the MACT floors for each emission point.

1. Sinter Plant Windbox Exhaust

Comment. One commenter stated that EPA proposed an emission limitation of 0.3 lb/ton of PM based on the performance of either a baghouse or scrubber. According to the commenter, EPA's floor does not reflect the actual performance of the relevant best sources - the average emission limitation achieved by the top five sources. As shown in the BID, the average emission limitation achieved by the best-performing five sources is 0.079 pound per ton (lb/ton), not the proposed limit of 0.3 lb/ton. Second, floor reflects what EPA believed to be achievable with the control technologies and not the actual performance of the relevant best sources. Third, EPA admits that several factors other than the performance of the technologies influence emissions.

Response. As we documented in appendix B of the BID, the floor for sinter plant windboxes was based on actual source test data and the five best-performing sources. We collected test data and verified that EPA Method 5 (40 CFR part 60, appendix A) was used. We ranked the results (in lb/ton of sinter) and calculated the average of the five best-performing sources (0.3

lb/ton). Contrary to the commenter’s assertion, we did not rely on control technology to identify the best-performing units or to estimate the performance of the best units. In this particular case, we had adequate test data to directly estimate the average emission limitation achieved by the five best-performing sources.

The calculation performed by the commenter is inappropriate and does not provide an accurate estimate of the emission limitation achieved by the plants. The commenter misinterpreted the information in the BID, which is not source test data, but is simply a best estimate of annual average emissions based on approximate emissions factors and the assumption that all plants operate continuously at their design capacity. Such an estimate cannot be used to represent actual performance in a MACT floor calculation.

After proposal, we reviewed our approach for developing the MACT floor and concluded that our original analysis did not sufficiently account for the normal and unavoidable variability inherent in the process operations and emission control equipment (as demonstrated by the emission test data). The average performance of the five best-performing sinter plants ranged from 0.26 to 0.32 lb/ton of sinter. To account for inherent variability, we applied the z-statistic to estimate the 95th percentile of a normal distribution for each source. The median of the 95th percentiles of the five best-performing sources is 0.4 lb/ton, which we chose to represent the MACT floor. This level of performance reasonably reflects the average emission limitation achieved by the five best-performing sources considering inherent variability. The best-controlled source averaged 0.26 lb/ton with a 95th percentile of 0.3 lb/ton, which represents the MACT floor for new sources.

2. Sinter Plant Limit on Oil Content

Comment. Two commenters stated that the proposed limit on oil content of 0.025 percent was based on the highest oil percentage of any of the four plants for which EPA had oil percentage data. They claim this is not a valid approach because it does not represent the actual performance of the relevant best sources. One commenter recommended that EPA consider beyond-the-floor technologies for dioxin emissions, such as elimination of rolling mill scale from sinter feed, de-greasing of sinter plant feed, quality control of water used in sinter plant feed preparation, and use of low-organic waterborne rolling mill lubricants.

Response. Our research indicates that emissions of organic compounds from sinter plant windboxes are controlled by limiting the amount of oil in the sinter feed. Emission control devices applied to sinter plants are designed primarily for the removal of PM and not for the various organic compounds that are formed from the oil. We believe that oil content is the most significant factor affecting organic compound HAP emissions. Consequently, we identified the MACT floor for organic HAP emissions from sinter plants based on the level of oil content that we observed for the sinter plants with the best programs to control oil in the sinter feed.

We obtained data from four sinter plants that have implemented a program to control the oil content of the sinter feed. We then examined the data and evaluated the variability to determine the level of control that has been achieved. The average results for oil content for each plant ranged from 0.014 to 0.025 percent. These are the best-performing plants because they were the only ones that routinely sample for oil content. We applied the z-statistic and estimated the 95th percentile for each plant. (The statistical analysis considered that the limit is based on a 30-day rolling average, which reduces the inherent variability as indicated by a lower standard deviation than that associated with a single analysis of oil content.) The median of the 95th percentiles for the top-performing plants is 0.022 percent. We rounded this value to 0.02 percent, and this level represents the MACT floor for existing units. The best-performing source averaged 0.014 percent oil with a 95th percentile of 0.015 percent. We rounded this value to 0.02 percent, and this level represents the MACT floor for new units.

We reviewed opportunities for control beyond the floor. We do not believe it is practical or feasible to eliminate rolling mill scale from the sinter feed. The sinter plant provides the only opportunity to recycle and recover the raw material value. Otherwise, the mill scale would be landfilled. De-greasing or de-oiling the sinter feed has been investigated by the industry, but there is no demonstrated technology in use at any sinter plant that has proven to be successful. There is no indication that the water used in preparing the sinter feed contributes to the oil content; therefore, water quality control is not expected to have an impact on emissions of organic compounds. Waterborne lubricants may have some advantages in certain applications. However, they are problematic in some applications in the demanding environment of steel rolling mills. We could find no indication that the practices cited by the commenter have been demonstrated to reduce dioxin or other organic compound emissions. Consequently, we selected a limit on oil content as the MACT floor. We believe it is more appropriate to set a performance standard that limits oil content rather than mandating a technology that an owner or operator must use to reduce oil content. The performance standard for oil content will encourage owners or operators to investigate technologies that reduce oil content to find the most effective approach for their specific situation.

Comment. Six commenters object to the proposed limit on oil content because EPA has not shown that it is achievable by the best-performing sinter plants under the most adverse anticipated circumstances over time.

Response. As we discussed in our previous response, we confirmed and refined the MACT floor estimates using a statistical approach to account for inherent variability. Based on this approach, we believe the MACT floor has been achieved on a continuing basis by the best-performing units. In addition, the limit is enforced based on a 30-day rolling average, which further enhances achievability because it allows an occasional high daily value to be averaged with lower values on other days to achieve compliance. A 30-day rolling average also provides time to take corrective action and lower the oil content before the limit is exceeded.

3. PM Standard for Blast Furnace Casthouse Control Device

Comment. One commenter stated that the technology approach used to develop the floor does not reflect the actual performance of the relevant best sources. The commenter further states that EPA admits that there are factors other than the type of control technology that affect the actual emission control performance of blast furnace casthouse control devices. Specifically, factors affecting emissions include duration of tapping, exposed surface area of metal and slag, length of runners, and the presence or absence of runner covers or flame suppression. Thus, the performance of a baghouse cannot be representative of the best sources’s actual performance.

Response. We proposed a PM standard of 0.009 gr/dscf for blast furnace casthouse control devices based on the performance of existing units using baghouses. We re-evaluated the emissions test data for blast furnace casthouses based on the statistical approach previously discussed in order to confirm and refine our emissions estimates for the best-performing units. We have test data for fugitive emissions from source tests at four casthouses. The available data clearly indicate that a baghouse is the best technology for controlling emissions from blast furnace casthouses. We reviewed the test data and the design features of these baghouses (such as air-to-cloth ratio), and we concluded that the baghouses that had been tested were among the best-performing units. The test results ranged from 0.002 to 0.0072 gr/dscf. We calculated the 95th percentile for each plant. The median of the 95th percentiles for the top-performing plants is 0.005 gr/dscf. We rounded this value to two decimal places and chose 0.01 gr/dscf to represent the MACT floor level of control for existing sources.

The best-controlled source averaged 0.002 gr/dscf with a 95th percentile of 0.0034 gr/dscf. We rounded the

95th percentile to 0.003 gr/dscf to represent the MACT floor for new sources.

4. PM Standard for BOPF Primary Control Devices

Comment. One commenter stated that the chosen floor technologies do not represent the actual performance of the relevant best sources.

Response. We proposed a PM limit of 0.019 gr/dscf for new and existing open hood BOPF primary control systems based on the performance of existing units using ESP. We re-evaluated the emissions test data for open hood BOPF using the statistical approach previously discussed, in order to confirm and refine our emissions estimates for the best-performing units. The available data clearly indicate that ESP perform better than venturi scrubbers in controlling emissions from open hood shops. We have test data for five ESP that are similar in design, each of which, based on design and operating data, are among the best-performing units at open hood shops. The data include multiple tests at some plants, and these data indicate there is variability in performance from test to test and from run to run. The plant averages ranged from 0.007 to 0.019 gr/dscf, and individual tests (three-run averages) ranged from 0.004

to 0.019 gr/dscf. We calculated the 95th percentile for each plant. The median of the 95th percentiles for the top-performing plants is 0.019 gr/dscf. We rounded this value to two decimal places and chose 0.02 gr/dscf to represent the MACT floor for existing units.

The best-controlled open hood shop averaged 0.0066 gr/dscf with a 95th percentile of 0.01 gr/dscf, which we chose to represent the MACT floor for new sources.

We proposed a limit of 0.024 gr/dscf for new and existing closed hood BOPF primary control systems based on the performance of existing units using venturi scrubbers. All of the closed hood shops use venturi scrubbers as the primary control device. The test data and design information indicated that shops having high-energy venturi scrubbers with a pressure drop of 50 inches of water or more are the best-performing sources. We have recent test data for only one closed hood shop. However, we have data from 1971 to 1978 for high-energy venturi scrubbers on closed hood shops. These data include four BOPF shops that are currently operating. The test results range from 0.021 to 0.024 gr/dscf. For purposes of today’s final rule, we did not include Kaiser Steel because the plant has been closed for several years. We calculated the 95th percentile for each plant. The median of the 95th percentiles for the top-performing plants is 0.027 gr/dscf. We rounded this value to two decimal places and chose 0.03 gr/dscf to represent the MACT floor for existing sources.

The best-controlled closed hood shop averaged 0.021 gr/dscf with a 95th percentile of 0.027 gr/dscf. We rounded the 95th percentile to two decimal places and chose 0.03 gr/dscf to represent the MACT floor for new sources.

Comment. Six commenters said EPA used test data dating from 1971 through 1978 to establish the limit for closed hood systems. These commenters believe the data do not reflect current configurations or actual performance and cannot be used to establish the floor. Many systems have been upgraded to increase capture efficiency (including some furnaces used to establish the standard). Because there are little or no data for these sources, the commenters recommend that EPA use existing State implementation plans (SIP) to determine the floor. Another commenter agrees, adding that the test data used to support the 0.024 gr/dscf limit ranged up to 0.031 gr/dscf and represent the minimum anticipated variation of emissions from a MACT floor technology source. The proposed limit is more stringent than existing SIP and may not be achievable by plants using MACT floor controls. The analysis does not consider the current PM limit of 0.03 gr/dscf for plants in Ohio, which the commenter believes should be the limit.

Response. The test data for closed hood shops are not just from tests in 1971 to 1978 – there is a 1992 test for Geneva Steel. The commenters did not provide any information on the nature of the upgrades or rationale as to their effect on emissions. For closed hood systems, testing is performed only during the oxygen blow with the capture hood tightly fitted to the furnace. Our understanding is that capture system upgrades have been made primarily to improve the capture of fugitive emissions from charging and tapping, which are not included in the performance testing for closed hood furnaces. In addition, the operating conditions of the scrubbers during the tests (e.g., pressure drops of 50 inches of water or more) are representative of the way these scrubbers are currently operated. Data for venturi scrubbers in other similar processes indicate that high-pressure drop scrubbers can achieve control levels of

0.03 gr/dscf or less. We believe the statistical approach that we used to confirm and refine emissions estimates for the floor analysis accounts for inherent variability over time. We believe that source test data provide a better picture of actual performance than the use of State limits as the commenter suggests. Moreover, based on our analysis of the emission tests, we have identified as MACT an emissions limit of 0.03 gr/dscf which is consistent with the emissions limits that the commenters identified as appropriate.

5. PM Standards for Ancillary Operations at BOPF Shops

Comment. According to eight commenters, the three data points for hot metal transfer and desulfurization are not sufficient to define the floor, accurately represent current operating conditions, or reflect a level that is consistently achievable under the most adverse foreseeable circumstances over time. If sufficient data are not available, EPA should use existing State limits, if it can show that the level of control is realistically achievable under the most adverse anticipated circumstances over time. The commenters also question that the data used for characterizing performance were collected using the same test procedures specified in the proposed rule (average of three 1-hour tests during actual operation of the processes). Using data from a test method other than the required compliance method to set a standard does not meet CAA requirements.

Response. We proposed a PM standard of 0.007 gr/dscf for a control device serving BOPF ancillary processes based on the performance of existing units using baghouses. We reviewed the emissions data and confirmed the tests were conducted using EPA Method 5 (40 CFR part 60, appendix A). Every test result was presented as the average of three runs, which is consistent with our performance test requirements. Several test reports confirmed that sampling was conducted under normal operating conditions, and none of the reports indicated conditions were not normal. The tests used a sampling time of 1 hour or more to ensure an adequate sample volume was collected. As explained earlier, in response to another comment, EPA believes that it is preferable to use actual performance test data to determine the MACT floor when there are adequate such data available to reasonably characterize the level of performance of the relevant sources. The commenters did not provide us with any additional facts or data to show that any of the data we relied upon are invalid. For the reasons described above, we believe that these data are adequate to reasonably estimate the performance of the best sources for purposes of establishing a MACT floor, and these estimates more accurately reflect the actual performance of the best- performing sources than would estimates based on State permit data. Moreover, the approach that we used to confirm and refine the emissions estimates for the top-performing sources assures that we have adequately accounted for variability over time, and, therefore, addresses the concerns of the commenter.

We re-evaluated the emissions test data for ancillary operations based on the statistical approach previously discussed, in order to confirm and refine our earlier analysis. At proposal, we considered the combined data for hot metal transfer/desulfurization and ladle metallurgy. However, we believe it is necessary to separate the two operations because hot metal transfer/desulfurization is performed on molten iron before charging to the BOPF. Ladle metallurgy is performed on molten steel from the BOPF. Consequently, the two processes have different emission characteristics which suggests each should have a separate MACT floor determination.

We have test data from three source tests of desulfurization and hot metal transfer. The control device used in these source tests, and the only type of control used for these processes, is a baghouse. We reviewed the test data and the design features of these baghouses (such as air-to-cloth ratio), and we concluded that the baghouses that had been tested were among the best-performing units. The three tests ranged from 0.0016 to 0.012 gr/dscf. We calculated the 95th percentile for each plant. The median of the 95th percentiles for the top-performing plants is 0.006 gr/dscf. We rounded this value to two decimal places and chose 0.01 gr/dscf to represent the MACT floor for existing units.

The best-controlled source averaged 0.0016 gr/dscf with a 95th percentile of 0.003 gr/dscf, which we chose to represent the MACT floor for new sources.

We have test results for six source tests of typical ladle metallurgy operations. As with desulfurization, the control device used in these source tests, and the only type of control used for these processes, is a baghouse. We reviewed the test data and the design features of these baghouses (such as air-to-cloth ratio), and we concluded that the baghouses that had been tested were among the best-performing units. The five best-performing units ranged from 0.0021 to 0.0047 gr/dscf. We calculated the 95th percentile for each plant. The median of the 95th percentiles for the top-performing plants is 0.006 gr/dscf. We rounded this value to two decimal places and chose 0.01 gr/dscf to represent the MACT floor for existing units.

The best-controlled source with typical ladle metallurgy operations (lance injection, electromagnetic stirring, and alloy addition), averaged 0.0021 gr/dscf with a 95th percentile of 0.004 gr/dscf, which we chose to represent the MACT floor for ladle metallurgy for new sources.

6. Opacity Standard for Sinter Plant Discharge End

Comment. According to one commenter, EPA does not explain how the floor determination represents an accurate picture of the relevant best sources' actual performance, or how it knows that the best sources are not doing better than their permits require.

Response. We proposed an opacity limit of 20 percent for the sinter plant discharge end based on the five sources subject to the most stringent existing State regulations or permit limits. One plant has a 10 percent opacity limit, and four plants have a 20 percent opacity limit. We chose the median (20 percent) to represent the MACT floor.

A total of six of the seven operating plants use a capture and control system vented to a baghouse for the discharge end, and engineering knowledge of their design features and the nature of emissions indicate that these baghouses are the best demonstrated control technology for the discharge end. Following the end of the comment period, in order to confirm the appropriateness of the proposed opacity limit, we surveyed the industry to obtain additional opacity data for the discharge end. The only substantive data we obtained was from Ispat-Inland, which submitted the results of 1,745 hours of observations by EPA Method 9 (40 CFR part 60, appendix A) conducted over 4 years (1997 to 2000). Ispat-Inland is among the better-performing plants because it controls the discharge end, crusher, and hot screen by capturing emissions using local hooding and ventilation and venting them to a baghouse for collection. Consequently, we believe that the control system at Ispat-Inland is representative of the best-performing sources.

At Ispat-Inland, approximately one percent of the hourly opacity observations had a 6-minute average that exceeded 20 percent opacity, and the plant met the proposed limit 99 percent of the time. Although many of the observations were below 20 percent opacity, the limit accommodates the normal variability in the process operations and control equipment. The data clearly show that Ispat-Inland is not consistently performing substantially better than what their permit requires and that our proposed limit is a reasonable picture of what the best-controlled sources can achieve.

Comment. Seven commenters contend that EPA has not shown that existing State limits are consistently achievable under the worst foreseeable conditions over time. The commenters claimed that opacity data they submitted to EPA demonstrates that the limits are not consistently achievable by well-operated and maintained sinter plants. The EPA must reevaluate the achievability of the proposed opacity standard.

Response. None of the commenters provided evidence that facilities subject to the identified State limits have been unable to meet those limits (e.g., in the form of reported violations). Moreover, as discussed in the previous response, approximately 99 percent of the hourly opacity observations at Ispat-Inland never had a 6-minute average in excess of 20 percent opacity. Performance improved to 99.9 percent compliance for more recent, 1998 to 2000, observations. As stated previously, these data show that the opacity limit based on existing State limits is achievable because it has been achieved on a continuing basis. Our analysis considered all of the data that we could obtain, and the only data available was that for Ispat-Inland which we discussed in detail.

7. Opacity Standard for Blast Furnace Casthouse

Comment. One commenter states that we failed to explain how the floor we selected reflects the best-performing 12 percent of the blast furnace casthouses. The commenter further states that we failed to pursue and collect from the affected sources or State and local agencies available opacity data, and we undermined the floor-setting process of the CAA.

Response. For blast furnace casthouses, we established the MACT floor as a 20 percent opacity limit based on the five sources subject to the most stringent existing State regulations or permit limits. Two casthouses are subject to a 15 percent opacity limit, and the next most stringent limit is 20 percent, which is applied to 22 of the 37 blast furnace casthouses.

Following the end of the comment period, in order to confirm the appropriateness of the proposed opacity limit, we obtained additional opacity data for operating blast furnace casthouses to supplement the limited data we had available at proposal. We now have opacity data for 25 of the 37 existing blast furnace casthouses, and the data range in coverage from a 1-hour test to several years of observations. (Although there were 39 blast furnace casthouses at proposal, two have subsequently shut down.) We closely examined the data that covered a reasonably long period of time (e.g., at least 1 year to capture seasonal variations), which included 12 of the 25 casthouses for which we had data. We believe it is important to account for seasonal variations and examine data covering 1 year or more to account for variability due to differences in ventilation rates, weather conditions, and changes in the process over time. We found that the casthouses with the lowest opacities were those with secondary capture and control systems. For some casthouses, most of the 6-minute averages were routinely below the proposed 20 percent limit with occasional readings that approached or exceeded 20 percent. The blast furnace casthouses at U.S. Steel (Gary) achieved the 20 percent opacity limit 99 to 100 percent of the time. One blast furnace casthouse had a maximum 6-minute average of 21 percent opacity, and another casthouse had a maximum of 20 percent opacity. At Ispat-Inland, the casthouses achieved 20 percent opacity 98 to 99.6 percent of the time. At LTV Steel, the casthouses achieved 20 percent opacity 99.5 to 99.8 percent of the time. These blast furnaces were achieving the 20 percent limit, but they were not demonstrably able to consistently achieve a level of performance more stringent than this limit. Consequently, the opacity data confirm that the 20 percent opacity limit based on the median value of the sources with the five most stringent emission limits is an accurate reflection of the MACT floor.

<u>Comment</u>. Eight commenters contend that the limits are not consistently achievable under the worst foreseeable conditions over time even by the casthouses used to establish the MACT floor. In support, the commenters claimed they had provided opacity data showing

that the limits have not been consistently achieved by well-operated and maintained casthouses. Achievability of the opacity limit for blast furnace casthouses is of particular concern because the process is subject to infrequent but significant swings in emission rates. The commenters recommend that EPA collect and analyze all available opacity data from States, Regions, and industry and determine the standard based on achievability. They recommend using a statistically-derived limit based on a high confidence level (the 99.97th percentile) to avoid an unachievable standard that would result in many violations.

Response. Following proposal, in order to confirm the appropriateness of the proposed opacity limit, we collected additional opacity data and identified the best-performing sources in terms of low opacity. Our analysis considered all of the opacity data submitted by the commenters and data obtained from other sources. For the five best-performing blast furnace casthouses (i.e., lowest opacities) with observations over at least 1 year, a 20 percent opacity limit was achieved for 99 to 99.8 percent of the time. We believe the data clearly show that an opacity limit of 20 percent represents what has been achieved by the best- performing sources and that it can be achieved on a continuing basis.

8. Opacity Standards for BOPF Shops

Comment. Eight commenters contend that the limits are not consistently achievable under the worst foreseeable conditions over time. They claim that opacity data submitted to EPA by the industry demonstrate that the limits are not consistently achieved by well-operated and maintained BOPF shops, and as a result, EPA must reevaluate the achievability of the proposed opacity standards.

Response. Following proposal, in order to confirm the appropriateness of the proposed 20 percent opacity limit, we obtained additional opacity data for operating BOPF shops to supplement the limited data we had available at proposal. We now have opacity data for 19 of the 23 existing BOPF shops ranging in coverage from a single 2-hour test to multiple tests covering several years of observations. Our analysis considered all of the opacity data submitted by the commenters and data obtained from other sources. We examined the data and found that the best-controlled BOPF shops were those with secondary capture and control systems. In contrast, several BOPF shops without secondary controls experienced frequent exceedances of the 20 percent opacity limit. A total of eight BOPF shops have capture systems for secondary emissions that are vented to baghouses. We re-evaluated the data to determine the appropriateness and achievability of the proposed 20 percent opacity limit. We focused on BOPF shops for which we had a reasonable amount of long-term data. Specifically, we examined opacity data only from shops for which we had 12 months or more of observations (i.e., all seasons of the year), which included observations for 11 of the 23 existing shops. The five best-performing shops achieved the limit 99.5 to 99.98 percent of the time. These data clearly indicate that the best-performing units in the category achieve the proposed opacity limit (but do not achieve a more stringent level of control), and, therefore, that the State limits are a good proxy for actual best performance. Thus, we are confident that the proposed opacity limit of 20 percent is achievable and that it provides an accurate picture of the actual performance achieved by the best-performing sources.

Our analysis of the opacity data for BOPF shops indicated that opacity observations are routinely made over several consecutive steel production cycles. In the proposal, we had included a provision that the opacity observations during the performance test did not have to be consecutive. In today's final rule, we have removed the provision which allowed non-consecutive observations. This is consistent with the opacity data used to support the opacity limit and with the procedures routinely used to make opacity observations for BOPF.

9. Sinter Cooler Stack

Comment. Six commenters note that one of the plants used to calculate the MACT floor is permanently shut down. Consequently, the floor analysis does not reflect the SIP requirements for actual operating sources. In addition, EPA has not shown that the proposed standard is achievable by the best-performing sources under the foreseeable range of operating conditions.

Response. Our investigation into this comment indicates that all five of the sinter plants listed in Table B-11 of the BID are operating (Ispat-Inland at East Chicago, IN; WCI Steel at Youngstown, OH; Bethlehem Steel at Sparrows Point, MD; U.S. Steel at Gary, IN; and AK Steel at Middletown, OH). Because we had only limited test data, we based the MACT floor on the average of the top five sources subject to the most stringent existing State regulations or permit limits. One plant has a limit of 0.01 gr/dscf (for one-half of its cooler), three of the five best-performing plants are subject to a limit of 0.03 gr/dscf, and one plant has a lb/hr limit that is equivalent to about 0.05 gr/dscf. The average and median limit applied to the top five plants is 0.03 gr/dscf. Although our data are limited, they show that the proposed emission limit is achievable and has been achieved based on the available test results.

Nationwide, baghouses are used at three plants, a cyclone at one plant, and three plants are uncontrolled. Consequently, the best- performing plants and the median of the top five would be a plant with a baghouse. A test at WCI Steel, which controls these emissions with a baghouse, ranged from 0.005 to 0.02 gr/dscf and averaged 0.009 gr/dscf. The results for WCI show significant variability in the run-to-run results, which range up to 0.02 gr/dscf. The test results indicate that the better-controlled plants can achieve the limit of 0.03 gr/dscf; however, considering the high variability from run to run, the plant is not substantially overachieving the limit.

No commenters provided any evidence that the existing State limits were not being achieved on a continuing basis (e.g., in the form of violation reports), and we have no evidence that any facility has been in violation of the existing State limits. Consequently, we believe the floor based on State limits represents a reasonably accurate picture of what the best-performing sources have and continue to achieve. For new sources, we chose a limit of 0.01 gr/dscf based on the most stringent State limit. The average test results for WCI Steel (0.009 gr/dscf) show that this limit is achievable by a properly-designed and operated baghouse.

10. PM Standard for Sinter Discharge End Control Device

Comment. According to one commenter, EPA claims it has PM test data from six plants, but asserts in the preamble that it has credible test data for only one plant and never explains why data for only one plant is credible. The EPA does not explain how this represents an accurate picture of the relevant best sources' actual performance, or how it knows that the best sources are not doing better than their permits require.

Response. The reference to test data in the BID is correct; however, use of the term "test data" in the BID was not correct. We had estimates of PM emissions from the discharge end from several plants based on emission factors that they supplied in a survey questionnaire. However, these estimates were not supported by the use of reference methods for sampling and analysis or substantiated by emission test reports. For units in this category, it is not feasible to use estimates based on typical emission factors to identify the level of control that a plant routinely achieves. Therefore, this information is of no practical value for purposes of identifying the best-performing sinter discharge ends. We found the only test data we could validate for the discharge end was for the EPA test conducted at WCI Steel. The results of this test support our conclusion that the existing State limits reasonably approximate actual emissions and performance. However, we have no indication or expectation that the best-performing plants are achieving a level of control more stringent than the proposed emission limit. Consequently, we based the floor on the most stringent State limits.

Comment. Seven commenters state that three of the nine sinter plants in the existing population are now shut down, including one of the five plants used to calculate the floor for the discharge end. The commenters assert that EPA must recalculate the floor to reflect only operating sources. Also, EPA must show that the standard is consistently achievable by the best-performing sources under the foreseeable range of operating conditions.

Response. We agree that one of the five best-performing plants (Wheeling-Pittsburgh Steel) used to determine the floor was shut down at the time of the floor analysis. We elected to re-calculate the floor and exclude this plant. We determined that the floor based on the average of the five best-performing sources remains the same (0.02 gr/dscf). One plant is subject to a limit of 0.01 gr/dscf, two plants are subject to a limit of 0.02 gr/dscf, one is subject to 0.03 gr/dscf, and the fifth plant has a mass rate limit that is equivalent to about 0.04 gr/dscf. The average and median value associated with the top five limits is 0.02 gr/dscf. We have detailed design information for the baghouses applied to the discharge end, and our engineering analysis of the design information, coupled with test data for baghouses in similar applications, indicates that these controls can achieve 0.02 gr/dscf under the foreseeable range of operating conditions. Although we have test data for only one baghouse, the test averaged 0.006 gr/dscf and further supports the achievability of the MACT floor. We based the MACT floor for new sources on the most stringent State limit of 0.01 gr/dscf. Again, the available test data indicate that this limit can be achieved by a properly-designed and operated baghouse.

11. PM Standard for BOPF Fugitive Emissions

Comment. One commenter stated that EPA does not explain how the floor determination represents an accurate picture of the relevant best sources' actual performance, or how it knows that the best sources are not doing better than their permits require.

Response. We have test data for only one baghouse applied to BOPF fugitive emissions, and because of the nature of the test, the results are not useful for determining the MACT floor. During the test, sampling was performed continuously over a 3-hour period, even when the furnace was not operating and when fugitive emissions were not occurring. Consequently, the reported concentrations for the baghouse outlet are unrepresentative of the concentrations that would be measured when fugitive emissions from charging and tapping are occurring. Because of the lack of data, we based the floor on existing State limits and have made no changes to the proposed emission limits. We chose 0.01 gr/dscf as the floor from the median of the five sources with the most stringent limits (one at 0.0052, one at 0.006, two at 0.01, and one at 0.012 gr/dscf). One unit is subject to the most stringent State limit of 0.0052 gr/dscf, and we selected this limit as the MACT floor for new sources. These limits are achieved by using a capture system vented to a baghouse, and these levels are consistent with the performance of well-designed and operated baghouses. We have no evidence that plants are violating their current limits, and we have no indication they are achieving a level of control more stringent than the identified State limits. This observation is consistent with an EPA design manual for baghouses which states that typical outlet concentrations for all applications range from 0.001 to 0.01 gr/dscf (depending primarily on the design parameters).

B. <u>What surrogates did we use for HAP</u>?

1. PM for Metal HAP

Comment. One commenter contends that PM is not a valid surrogate for HAP metal compounds and that specific limits for individual metals should be established. In support, the commenter points to other rules where EPA has recognized that PM is not a valid surrogate for mercury, lead, and cadmium because of their volatility and that these emissions cannot necessarily be controlled merely by controlling PM emissions. Consequently, EPA cannot claim PM is a valid surrogate for metal HAP in the final rule or that setting standards for individual metals would "...achieve little, if any, HAP emission reduction beyond what would be achieved using the surrogate pollutant approach based on total PM." Because EPA has already recognized that PM is not an adequate surrogate for mercury, lead, and cadmium, EPA must set individual emission standards for such HAP.

Response. We disagree with the commenter and believe that PM is a valid surrogate for the HAP metal compounds emitted from integrated iron and steel sources. The rationale in the preamble for the hazardous waste combustors (HWC) rule is unique to that source category and does not apply to the metal HAP emissions and controls in the integrated iron and steel industry. The preamble for the final HWC rule makes this point clearly:

> ... However, for sources not burning hazardous waste and without a significant potential for extreme variability in metals feed rates, PM is an adequate surrogate for metal HAP (e.g., for nonhazardous waste burning cement kilns).[1]

Hazardous waste combustors are unique and different from integrated iron and steel sources in several respects:

- they have significant levels of volatile and semi-volatile HAP metal compounds in the waste-derived fuels being burned,
- the feed rate of these metals can be highly variable, and
- the high temperatures in the combustion process can volatilize semi-volatile metals and form fine PM, which can be harder to control. In contrast, the raw materials used in iron and steel processes have relatively low levels of metal HAP, the level of metal HAP does not vary significantly as do the HAP metals in waste materials fed to HWC, and test data indicate that PM control devices effectively control the HAP metals

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[1] See Footnote 40 in preamble to the final HWC rule (64 FR 52846, September 30, 1999).

from iron and steel processes.

A key parameter for the control of both semi-volatile and non-volatile metal compounds is the operating temperature of the air pollution control device that is applied. At temperatures of 200 to 400°F, the range typical of control devices applied to emissions from integrated iron and steel processes, any semi-volatile and non-volatile HAP metal compounds present would exist in the form of fine PM, and, therefore, will be controlled in direct relationship to PM.

Mercury is an exception because of its high volatility. However, we have no data that show any significant emissions of mercury from integrated iron and steel plants, and there is no reason to suspect its presence in any appreciable quantities in emissions from ironmaking and steelmaking. In the two sinter plant tests we conducted, we sampled and analyzed for mercury. The results showed only trace levels of mercury (7×10^{-7} to 2×10^{-6} gr/dscf). Thus, we believe that mercury emissions from integrated iron and steel sources are negligible and that the performance of these units with respect to any trace levels of mercury can not be measurably improved. Moreover, no iron and steel plants operate an emissions control system that would further reduce these trace amounts of mercury emissions, or otherwise take any steps that would reduce such emissions. Because no units currently reduce mercury emissions from the integrated iron and steel industry, the MACT floor for mercury (for both new and existing sources) would be no reduction in emissions. Because the mercury concentrations are already so low, no technically feasible control technologies can be identified that could reduce these trace levels of mercury emissions. Therefore, no mercury emissions standards are proposed for integrated iron and steel sources.

2. Oil Content for Organic HAP

Comment. Two commenters urged us to establish emission standards for specific organic HAP, including dioxin, in lieu of the oil content limit. One commenter contends that the proposed rule should contain emission limits for the many organic HAP emitted from iron and steel plants, including dioxin, polycyclic organic matter, benzene, and toluene. The proposed operating requirement for sinter plants is not an emission standard and does not satisfy CAA requirements. Furthermore, regulations pursuant to section 112 of the CAA must include emission standards for each HAP emitted from an affected source category. The commenter adds that EPA provided no data in support of the proposed approach for controlling dioxin emissions. This commenter believes the proposed rule effectively ignores organic HAP in contradiction of CAA requirements because vapor phase organics are not removed by the fabric filters or wet scrubbers.

Several commenters contend that EPA has not met its requirements to show a correlation between the surrogate to be controlled and the object of control. Two commenters state that EPA has not provided sufficient data to demonstrate a correlation. Eight other commenters do not believe that there is a correlation to dioxin emissions or that control of the oil and grease would reduce HAP organic emissions. In support, they claim data from one plant (Bethlehem Steel, Sparrows Point) show no VOC increase in windbox emissions as oil content increases.

Response. The only available data regarding organic HAP emissions from these units are from two tests we conducted. These tests are insufficient to generate a meaningful characterization of emission control levels that can be achieved under varying process conditions over time, and there is no way to use this emissions test data to identify the best-performing plants. Moreover, the add-on emission controls used by units in the category (baghouses and venturi scrubbers) do not control vapor phase organic compounds. As a result, we believe that the best way to assess current levels of VOC emission control, and to limit such emissions is to rely upon existing methods of pollution prevention. Accordingly, we have established limits on the amount of organic HAP precursor material (specifically oil and grease) that may be in the sinter feed, in order to control emissions of organic compounds. Additionally, section 112(d)(2) of the CAA specifically allows EPA to establish MACT standards based on emission controls that rely on pollution prevention techniques.

We have added information to the docket from a European study that shows dioxin emissions are related to oil content – emissions increase as the oil content increases. We have also added information from two U.S. sinter plants that show VOC emissions increase as oil content increases, and the VOC contains volatile HAP such as benzene. In fact, plants in Indiana control VOC emissions by limiting the amount of oil in the sinter feed. Because the two are related, Indiana allows monitoring oil content as an alternative to VOC monitoring. In the past, sinter plants with baghouses have voluntarily limited oil content because the organic compounds that were emitted tend to condense and blind the bags as well as pose a fire hazard. We believe these studies conclusively show that oil content correlates with organic emissions.

An emission limit for individual organic compounds is not practical because the emission controls that are used do not effectively control all organic HAP. Conventional control systems used for organics, such as incineration or carbon adsorption, would not be practicable because they are ineffective at the very low concentration (parts per million levels) in the windbox exhaust stream. On the other hand, a limit on oil content effectively limits emissions of organic HAP, and control of oil content is a proven emission control measure. Consequently, in this instance, we believe that a limit on oil content is the only feasible way to ensure that all plants achieve the MACT level of control for organic HAP from the sinter plant windbox exhaust.

C. Is a risk analysis warranted?

Comment. Seven commenters urge EPA to perform a risk assessment under section 112(d)(4) of the CAA for manganese to determine if HAP controls are necessary. Manganese is a health threshold pollutant, and there is little likelihood of chronic or widespread exposure at concentrations above the threshold at iron and steel plants. The EPA conducted this analysis for the pulp and paper standards and decided not to regulate hydrogen chloride emissions. According to the commenters, risk-based standards under section 112(d)(4) would result in no standards, or less stringent and more cost effective standards.

Response. Section 112(d)(4) of the CAA provides EPA with authority, at its discretion, to develop risk-based standards for HAP "...for which a health threshold has been established," provided that the standard achieves an "ample margin of safety." Section 112(d)(4) says:

> [w]ith respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.

As EPA has indicated in the past (see 63 FR 18754 and 67 FR 44713), we generally apply section 112(d)(4) of the CAA only to HAP that are not carcinogens because Congress clearly expected that carcinogens would be non-threshold pollutants. The legislative history further indicates that if EPA invokes this provision, it must assure that any emission standard results in ambient concentrations less than the health threshold, with an ample margin of safety, and that the standards must also be sufficient to protect against adverse environmental effects. (See S. Rep. No. 228, 101st Cong. at 171.) The EPA is not to consider cost in establishing a standard pursuant to section 112(d)(4).

Therefore, EPA believes it has the discretion under section 112(d)(4) of the CAA to develop risk-based standards for some categories emitting threshold pollutants, which may be less stringent than the corresponding floor-based MACT standard would be. Where EPA develops standards under this provision, we seek to ensure that emissions from every source in the category or subcategory are less than the threshold level to an individual exposed at the upper end of the exposure distribution. We believe that assuring protection to persons at the upper end of the exposure distribution is consistent with the ample margin of safety requirement in section 112(d)(4). (See 63 FR 18754 at 18768.)

However, the EPA emphasizes that use of section 112(d)(4) of the CAA authority is wholly discretionary. As the legislative history described above indicates, cases may arise in which other considerations dictate that the Agency should not invoke this authority to establish less stringent standards, despite the existence of a health effects threshold that is not jeopardized. For instance,

EPA does not anticipate that it would set less stringent standards where evidence indicates a threat of significant or widespread environmental effects, although it may be shown that emissions from a particular source category do not approach or exceed a level requisite to protect public health with an ample margin of safety. The EPA may also elect not to set less stringent standards where the estimated health threshold for a contaminant is subject to large uncertainty. Thus, in considering appropriate uses of its discretionary authority under section 112(d)(4), EPA considers other factors in addition to health thresholds, including uncertainty and potential adverse environmental effects, as that phrase is defined in section 112(a)(7) of the CAA.

For several reasons, in this case, we have decided not to exercise our discretion to consider existing threshold levels for manganese in setting the emission standards for metal HAP compounds from integrated iron and steel facilities. This decision is appropriate because we have insufficient data about the nature and degree of public exposures to these emissions, including background exposure levels and other relevant factors, to meaningfully consider whether maximum exposures to manganese emissions from integrated iron and steel facilities would remain below the relevant threshold. In fact, it is clear that facilities in this source category emit significant quantities of manganese, totaling about 250 tpy. Because the commenters did not provide us with any of the detailed site-specific information that we would need to perform an adequate assessment of emissions and exposures, we have concluded that it would be inappropriate to consider the threshold nature of manganese in establishing MACT standards for the integrated iron and steel source category. Additionally, the commenters have supplied no information about the environmental impact of metal emissions from integrated iron and steel plants, and we have no data upon which we can rely for such an environmental assessment.

Moreover, even if we had access to more detailed data regarding emissions, exposures, and environmental impact, it is not clear whether consideration of the manganese health threshold would have any practical effect on the MACT standards established in today’s final rule. In particular, emissions from integrated iron and steel plants include metal HAP besides manganese that are not threshold pollutants (including lead, nickel, and chromium compounds), and these pollutants are controlled using the same control technologies that reduce emissions of manganese. As with manganese, we have no data regarding maximum exposures or environmental impacts from such emissions at integrated iron and steel facilities, and we have no data specifically characterizing these metal emissions. These plants emit about 360 tpy of HAP metal compounds – including about 111 tpy of lead, nickel and chromium compounds. Certain lead, nickel and chromium compounds are listed as carcinogens and have no applicable human health threshold. For additional information, see our guidance document entitled “Guidance on the Major Source Determination for Certain Hazardous Air Pollutants" available on our website at http://www.epa.gov//ttn/oarpg/t3/memoranda/agghapmem.pdf.

Today's final rule controls all metal HAP emissions (including lead, nickel, and chromium) by using PM as a surrogate. Because we use PM as a surrogate, eliminating only one or some of the metal HAP from consideration would have little if any practical impact on the MACT standards. Consequently, we believe the MACT standards finalized today are appropriate and will reduce emissions of all HAP at integrated iron and steel plants to the levels currently being achieved by the best-performing facilities.

D. How did we revise the emission limitations?

1. Sinter Cooler Emissions

Comment. Seven commenters explain that some exhaust systems on the sinter plant discharge end are designed to capture emissions at the point where sinter is loaded onto the sinter cooler and portions of the sinter cooler itself. In situations where cooler emissions are exhausted in part or in whole to the discharge end control system, the commenters request that the cooler stack emissions standard of 0.03 gr/dscf (for existing facilities) apply to the discharge end baghouse.

Response. We disagree and have written the final rule to clarify that the limit of 0.02 gr/dscf for the discharge end applies even when other emissions are ducted to the control device. The most effective technology for controlling emissions from the discharge end is a baghouse, and a properly-designed and operated baghouse can achieve 0.02 gr/dscf on a continuing basis. An emission limit of 0.03 gr/dscf is too high to be representative of the MACT floor, and does not reflect what is currently achieved by the five best-performing sources.

2. Sinter Plant Oil Content Requirement

Comment. Sinter plants in Maryland and Indiana already must comply with rules that regulate the oil and grease content for the sinter plant raw material blend. The rules limit VOC emissions to no more than 0.25 lb/ton of sinter (except Indiana allows 0.36 lb/ton during non-ozone season). Maryland requires VOC testing and Indiana provides the option of VOC testing or sampling for oil content. Seven commenters recommend VOC testing as an option in the final rule because most plants in these states already use them; some comments also suggest a 30-

day rolling average for VOC.

Response. We reviewed data submitted by two plants that showed VOC emissions correlated with oil content. LTV Steel (now owned by International Steel Group) performed simultaneous testing of oil content and VOC emissions, correlated the results, and showed that an oil content of 0.024 percent was equivalent to the State VOC limit of 0.25 lb/ton of sinter. As a result, the State allowed them to use alternative monitoring procedures. Based on our review of the data, we believe that maintaining the VOC at a level of 0.2 lb/ton or lower will ensure that the operating limit of 0.02 percent oil is maintained. Consequently, we have written the final rule to include an alternative emission limitation for VOC of 0.2 lb/ton of sinter. A plant electing the alternative limit is required to measure VOC emissions (total gaseous nonmethane organics as carbon) in source emissions using EPA Method 25 in 40 CFR part 60, appendix A (or a previously approved method). As with the oil content, the VOC limit is based on a 30-day rolling average. The 30-day average provides additional flexibility because it allows an occasional high daily value to be averaged with lower values on other days to achieve compliance. We believe the 30-day average accounts for day-to-day variability and enhances the achievability of the limit.

3. ESP Operating Limit

Comment. For plants required to use COMS to monitor ESP, the proposed rule establishes an enforceable operating limit based on the opacity observed during the initial performance test. Eight commenters argue that COMS data should not be used for compliance determinations because of measurement uncertainties and unreliability. They point to the recognized limitation for measuring opacity below 10 percent and provide supporting data comparing COMS measurements in ESP stacks to EPA Method 9 data. Like the steel pickling MACT standard, COMS data should be used only to indicate if the ESP is operating properly and to institute corrective action as appropriate; subsequent EPA Method 9 observations may be appropriate in the event of a high number of measured excursions. These commenters also object to the operating limit for ESP equipped with COMS because EPA has not demonstrated a correlation between opacity and PM emissions from BOPF controlled by ESP to support using opacity as a surrogate for PM. A COMS opacity reading that is above that observed during a performance test does not necessarily indicate an exceedance because the high reading could have been caused by water vapor or another interference. The commenters believe EPA has not demonstrated that the tiny amount of data collected during the initial performance test would be representative of the opacity performance of ESP over the full range of foreseeable operating conditions. Thirty 6-minute averages taken over a 3-hour period will not adequately characterize the range of 87,600 6-minute averages generated over an entire year. Thus, EPA has not demonstrated that a limit set in this manner would be consistently achievable by well-operated and maintained equipment under the most adverse operating conditions over time.

Response. We believe that opacity is well established as a surrogate for PM. However, we understand the concerns of the commenters with respect to variability and have written the procedures in the final rule for determining the COMS operating limit to account for variability. The opacity operating limit is based on measurement of 6-minute averages during the performance test, and then calculating the 99 percent upper confidence limit on the mean of a normal distribution of the average opacity values. This statistical approach will account for normal variability and still provide assurance that the ESP is operating properly.

4. Operating Limits for Capture Systems

Comment. Nine commenters believe that an enforceable range of operating limits applicable under all operating conditions cannot be determined from the initial performance test for damper systems. Fixed damper positions for one set of operating conditions are not appropriate due to varying simultaneous operations, normal process variations, and seasonable variations. The final rule should allow sources to specify multiple operating scenarios or ranges of operation in the operation and maintenance plan and require plants to meet the values in the plan rather than those set in the initial performance test. Eight of these commenters also recommend that the final rule include an alternative allowing continuous monitoring of fan amperage, like the provisions included in the proposed standards for coke plants.

Response. We investigated this issue further, and based on the additional information we received, we agree that fixed damper settings are not practicable or desirable in many cases. For example, damper settings may need to be changed in the BOPF shop depending on the operations underway at the time, such as hot metal transfer, desulfurization, charging, oxygen blowing, and tapping. We have written the final rule to provide flexibility and have modeled it after the MACT standard for primary copper smelters. The owner or operator must specify in the operation and maintenance plan the damper settings that will be used under different operating scenarios and for seasonal variations. These damper settings must be checked once per day. We have also added fan amperage as an acceptable alternative, consistent with the MACT standards for coke ovens and for primary copper smelters.

E. How did we revise the performance test requirements?

1. Overlapping Cycles

Comment. Some plants have the capability of overlapping cycles of two separate furnaces (e.g., they may blow one furnace while another is being tapped). It appears that EPA's database is comprised of tests conducted on single furnaces. For this reason, seven commenters ask EPA to clarify that testing of primary emissions from BOPF is to be conducted during the steel production cycle of a single furnace. Other shop operations may be suspended during the testing. This approach is consistent with the manner in which the data were collected.

Response. We specify in the final rule exactly when owners or operators must test primary emissions from BOPF. For closed hood BOPF, plants must sample only during the primary oxygen blow. For open hood BOPF, plants must sample during the steel production cycle. We clarified that the steel production cycle begins when scrap is charged to the furnace and ends 3 minutes after the slag is emptied from the vessel. These requirements are consistent with the way the emission test data were collected. We do not agree that testing should be performed under conditions that do not represent normal operations, such as suspending certain shop operations. The provisions in 40 CFR 63.7(e) apply and require that sampling be conducted under conditions that are based on representative performance (i.e., performance based on normal operating conditions of the affected source).

2. Testing Multiple Stacks

Comment. Eight commenters believe it is impractical and burdensome to require simultaneous tests of multiple stacks or vents for a control device (e.g., baghouse with eight modules, each with its own fan and stack). Successive testing of each stack or vent could be more manageable, but still has excessive costs. One commenter estimates 42 days of testing could be needed at one plant if each stack and vent must be tested. For these reasons, the proposed rule should be revised to allow for performance tests of a representative exhaust flow where control devices with multiple stacks are used.

Response. We agree and believe that because of the site-specific nature of this problem, decisions should be made on a case-by-case basis by the applicable permitting authority. We have written the final rule such that a source may conduct a representative sampling of stacks subject to the approval of the permitting authority when there are more than three stacks associated with a process.

F. How did we revise the cost estimates and economic impact analysis?

Comment. Several commenters stated that we significantly underestimated the cost of the proposed rule. At proposal, we estimated a capital cost of $34 million. The commenters said that the total capital cost was in the range of $270 to $320 million. Their estimate includes the cost of controls for plants not included in EPA's estimate as well as higher estimates of the cost for controls and monitoring in general.

Response. Following proposal and the receipt of comments, we contacted facilities to discuss the details of their cost estimates. Some facilities provided the details and basis of their estimates, and we incorporated them into our revised estimates. Other plants did not provide details or documentation; consequently, we developed our best estimate of potential costs for these facilities. In addition, we collected opacity data for most of the operating plants. We used these data to identify plants that may need to install capture and control systems in the blast furnace casthouse or BOPF shop to meet the 20 percent opacity limit. Our revised capital cost estimate increased to $93 million.

Comment: Eight commenters urge EPA to update it's economic impact analysis to represent current economic conditions of the steel industry and the cumulative effect of all other pending environmental regulatory requirements facing the industry during the same time period.

Response: We agree with the commenters and have performed a revised economic impact analysis. The revised analysis attempts to account for the factors mentioned in the comment. At proposal, we estimated domestic production from integrated steel mills would decline by 3,100 tons, and operating profits were expected to decrease by $5.2 million annually. With our revised analysis, we estimate domestic production from integrated mills will decline by 73,000 tons, and operating profits will decrease by $13 million per year. A complete copy of the economic impact analysis is available in the docket.

IV. Summary of Environmental, Energy, and Economic Impacts

A. What are the air emission impacts?

The installation of new controls and upgrades will result in reductions in emissions of metal HAP and PM. We estimate that five new capture and control systems for the blast furnace casthouses will reduce these emissions by 90 percent, a reduction of 14 tpy of HAP and 2,100 tpy of PM. The new BOPF scrubbers at one plant and upgrades at two others will result in a 50 percent reduction in emissions, 5 tpy of HAP and 350 tpy of PM. Six new capture and control systems for fugitive emissions from BOPF shops will result in a 90 percent reduction in emissions, 48 tpy of HAP and 3,300 tpy of PM.

Most plants currently operate air pollution control equipment sufficient to meet the final rule requirements. We expect the standard to reduce metal HAP emissions from plants that will need to install or upgrade controls by 67 tpy and PM emissions by 5,800 tpy. Nationwide emissions of metal HAP and PM from integrated iron and steel plants will be reduced by nearly 20 percent from current levels.

B. What are the cost impacts?

The nationwide capital and annual costs of new and upgraded capture and control systems are estimated at $93 million and $15 million/yr, respectively. The total nationwide annual costs (including monitoring and recordkeeping) are about $16 million/yr. These costs are based on a new primary control system (high-pressure drop venturi scrubbers) for one BOPF shop, upgraded primary controls at two others, six new capture and control systems for fugitive BOPF emissions, and five new capture and control systems for blast furnace casthouses. In addition, the estimate includes a capital cost of $0.9 million and a total annual cost of $1 million for monitoring, reporting, and recordkeeping.

C. What are the economic impacts?

We conducted a detailed economic impact analysis to determine the impacts of the final rule on both the industry and the U.S. market for steel mill products. We estimate the economic impacts in both areas to be negligible. We project the price of steel mill products, in aggregate, to increase by less than 0.1 percent with domestic production from integrated mills declining by 73,100 short tons. This decline in production at affected integrated mills is somewhat offset by increases at nonintegrated domestic steel producers (15,800 short tons) and foreign imports (49,500 short tons). In terms of industry impacts, the integrated steel producers are projected to experience a slight decrease in operating profits of $13 million annually, which reflects increased costs of compliance and associated reductions in revenues from producing final steel mill products. In addition, we don't foresee any individual integrated facility being in jeopardy of closure as a result of implementing the rule.

Based on the market analysis, the annual costs to society of today's final rule are projected to be $15.4 million. As a result of slightly higher prices for steel mill products, the final consumers of these products will incur an additional $6.2 million annually. Profits at integrated steel mills are expected to decline by $13 million annually because of directly incurred control costs and reduced product revenues, while nonintegrated steel mills that compete in these markets and are unaffected by today's rule will experience an increase in profits of $2.2 million. Similarly, foreign steel producers will also experience an increase in profits of $1.7 million due to the slightly higher prices and increases in imports to the U.S. market. For more information, consult the economic impact analysis supporting the proposed rule.

D. What are the non-air health, environmental, and energy impacts?

Implementation of the rule will result in a small increase in solid waste -- 3,200 tpy of sludge and 5,500 tpy of dust. The energy increase is estimated at 24,000 megawatt-hours per year, primarily due to the energy requirements of new venturi scrubbers.

V. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the EPA must determine whether the regulatory action is "significant" and, therefore, subject to review by the Office of Management and Budget (OMB) and the requirements of the Executive Order. The Executive Order defines a "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the

principles set forth in the Executive Order.

It has been determined that the final rule is not a "significant regulatory action" under the terms of Executive Order 12866, and is, therefore, not subject to OMB review.

B. Paperwork Reduction Act

The information collection requirements in the final rule have been submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. An information collection request (ICR) document has been prepared by EPA (ICR No. 2003.02), and a copy may be obtained from Susan Auby by mail at U.S. EPA, Office of Environmental Information, Collection Strategies Division (2822T), 1200 Pennsylvania Avenue, NW, Washington, DC 20460, by e-mail at auby.susan@epa.gov, or by calling (202) 566-1672. A copy also may be downloaded off the Internet at http://www.epa.gov/icr. The information requirements are not enforceable until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to NESHAP. These recordkeeping and reporting requirements are specifically authorized by section 112 of the CAA (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to Agency policies in 40 CFR part 2, subpart B.

The final rule requires applicable one-time notifications required by the General Provisions for each affected source. As required by the NESHAP General Provisions, all plants must prepare and operate by a startup, shutdown, and malfunction plan. Plants also are required to prepare an operation and maintenance plan for capture systems and control devices subject to operating limits. Records are required to demonstrate continuous compliance with the monitoring, operation, and maintenance requirements for capture systems, control devices, and monitoring systems. Semiannual compliance reports also are required. These reports must describe any deviation from the standards, any period a continuous monitoring system was out-of-control, or any startup, shutdown, or malfunction event where actions taken to respond were inconsistent with startup, shutdown, and malfunction plan. If no deviation or other event occurred, only a summary report is required. Consistent with the General Provisions, if actions taken in response to a startup, shutdown, or malfunction event are not consistent with the plan, an immediate report must be submitted within 2 days of the event with a letter report 7 days later.

The annual public reporting and recordkeeping burden for this collection of information averaged over the first 3 years after [INSERT DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER] is estimated to total 4,772 labor hours per year at a total annual cost of $347,115, including labor, capital, and operation and maintenance. Total capital costs associated with the monitoring equipment is estimated at $885,000. The total annualized cost of the monitoring equipment is estimated at $126,000. This estimate includes the capital, operating, and maintenance costs associated with the installation and operation of the monitoring equipment.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purpose of collecting, validating, and verifying information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to respond to a collection of information; search existing data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

C. Regulatory Flexibility Act

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with the final rule. The EPA has also determined that the final rule will not have a significant economic impact on a substantial number of small entities. For purposes of assessing the impacts of today's final rule on small entities, small entity is defined as: a small business according to the U.S. Small Business Administration (SBA) size standards for NAICS code 33111

(Iron and Steel Mills) of 1,000 or fewer employees; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today’s final rule on small entities, EPA has concluded that this action will not have a significant economic impact on a substantial number of small entities. Based on the SBA size category for this source category, no small businesses are subject to the final rule and its requirements.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, the EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with “Federal mandates” that may result in expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires the EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least-burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows the EPA to adopt an alternative other than the least-costly, most cost-effective, or least-burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before the EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

Today’s final rule contains no Federal mandate (under the regulatory provisions of the UMRA) for State, local, or tribal governments. The EPA has determined that the final rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector of $100 million or more in any one year. Thus, the final rule is not subject to the requirements of sections 202 and 205 of the UMRA. The EPA has also determined that the final rule contains no regulatory requirements that might significantly or uniquely affect small governments. Thus, today’s final rule is not subject to the requirements of section 203 of the UMRA.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999) requires EPA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

The final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the affected facilities are owned or operated by State governments. Thus, Executive Order 13132 does not apply to the final rule.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

Executive Order 13175 (65 FR 67249, November 9, 2000) requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications."

The final rule does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes. No tribal governments own facilities subject to the NESHAP. Thus, Executive Order 13175 does not apply to the final rule.

G. Executive Order 13045: Protection of Children from Environmental Health & Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) is determined to be "economically significant," as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. The final rule is not subject to Executive Order 13045 because it is based on control technology and not on health or safety risks.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

The final rule is not subject to Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law No. 104-113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs EPA to provide Congress, through annual reports to OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.

The final rule involves technical standards. Therefore, the EPA conducted a search to identify potentially applicable voluntary consensus standards. However, we identified no such standards as alternatives to EPA Methods 2F, 2G, 5D, 9 and OSW 846 Method 9071B, and none were brought to our attention in comments.

The Agency identified ASTM D4536-96, "Test Method for High Volume Sampling for Solid Particulate Matter and Determination of Particle Emissions," as being potentially applicable and proposed it as an alternative to Method 5 or 17 for testing positive pressure fabric filters. However, this standard has been replaced by ASTM D6331-98, "Standard Test Method for Determination of Mass Concentration of Particulate Matter from Stationary Sources at Low Concentrations (Manual Gravimetric Method)." We have decided not to use of ASTM D6331 in the final rule. The use of this voluntary consensus standard would be impractical or inconsistent with applicable law because it is not similar enough to replace ASTM D4536-96.

The search for emissions measurement procedures identified 16 other voluntary consensus standards. The EPA has not adopted these standards as alternatives in the final rule because they are impractical or still under development. Our search and review results are available in the docket.

J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing the final rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the final rule in the Federal Register. The final rule is not a "major rule" as defined by 5 U.S.C. 804(2).

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List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements.

Dated:

Christine Todd Whitman,
Administrator.

For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

PART 63--[AMENDED]

1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

SUBPART A--[AMENDED]

2. Part 63 is amended by adding subpart FFFFF to read as follows:

Subpart FFFFF--National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities

Sec.

What This Subpart Covers

Emission Limitations

Operation and Maintenance Requirements

General Compliance Requirements

Initial Compliance Requirements

Continuous Compliance Requirements

Notifications, Reports, and Records

Other Requirements and Information

Tables to Subpart FFFFF of Part 63

What this Subpart Covers

§63.7780 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for integrated iron and steel manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with all applicable emission limitations and operation and maintenance requirements in this subpart.

§63.7781 Am I subject to this subpart?

You are subject to this subpart if you own or operate a an integrated iron and steel manufacturing facility that is (or is part of) a major source of hazardous air pollutants (HAP) emissions. Your integrated iron and steel manufacturing facility is a major source of HAP if it emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year.

§63.7782 What parts of my plant does this subpart cover?

(a) This subpart applies to each new and existing affected source at your integrated iron and steel manufacturing facility.

(b) The affected sources are each new or existing sinter plant, blast furnace, and basic oxygen process furnace (BOPF) shop at your integrated iron and steel manufacturing facility.

(c) This subpart covers emissions from the sinter plant windbox exhaust, discharge end, and sinter cooler; the blast furnace casthouse; and the BOPF shop including each individual BOPF and shop ancillary operations (hot metal transfer, hot metal desulfurization, slag skimming, and ladle metallurgy).

(d) A sinter plant, blast furnace, or BOPF shop at your integrated iron and steel manufacturing facility is existing if you commenced construction or reconstruction of the affected source before July 13, 2001.

(e) A sinter plant, blast furnace, or BOPF shop at your integrated iron and steel manufacturing facility is new if you commence construction or reconstruction of the affected source on or after July 13, 2001. An affected source is reconstructed if it meets the definition of reconstruction in §63.2.

<u>§63.7783 When do I have to comply with this subpart</u>?

(a) If you have an existing affected source, you must comply with each emission limitation and operation and maintenance requirement in this subpart that applies to you no later than [INSERT DATE 3 YEARS AFTER THE DATE OF PUBLICATION OF THIS FINAL RULE IN THE <u>FEDERAL REGISTER</u>].

(b) If you have a new affected source and its initial startup date is on or before [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE <u>FEDERAL REGISTER</u>], then you must comply with each emission limitation and operation and maintenance requirement in this subpart that applies to you by [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE <u>FEDERAL REGISTER</u>].

(c) If you have a new affected source and its initial startup date is after [INSERT DATE OF PUBLICATION

OF THIS FINAL RULE IN THE FEDERAL REGISTER], you must comply with each emission limitation and operation and maintenance requirement in this subpart that applies to you upon initial startup.

(d) If your integrated iron and steel manufacturing facility is not a major source and becomes a major source of HAP, the following compliance dates apply to you.

(1) Any portion of the existing integrated iron and steel manufacturing facility that becomes a new affected source or a new reconstructed source must be in compliance with this subpart upon startup.

(2) All other parts of the integrated iron and steel manufacturing facility must be in compliance with this subpart no later than 2 years after it becomes a major source.

(e) You must meet the notification and schedule requirements in §63.7840. Several of these notifications must be submitted before the compliance date for your affected source.

Emission Limitations

§63.7790 What emission limitations must I meet?

(a) You must meet each emission limit and opacity limit in Table 1 to this subpart that applies to you.

(b) You must meet each operating limit for capture systems and control devices in paragraphs (b)(1) through (3) of this section that applies to you.

(1) You must operate each capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse or to secondary emissions from a BOPF at or above the lowest value or settings established for the operating limits in your operation and maintenance plan;

(2) For each venturi scrubber applied to meet any particulate emission limit in Table 1 to this subpart, you must maintain the hourly average pressure drop and scrubber water flow rate at or above the minimum levels established during the initial performance test.

(3) For each electrostatic precipitator applied to emissions from a BOPF, you must maintain the average opacity of emissions for each 6-minute period at or below the site-specific opacity value corresponding to the 99 percent upper confidence limit on the mean of a normal distribution of average opacity values established during the initial performance test.

(c) An owner or operator who uses an air pollution control device other than a baghouse, venturi scrubber, or electrostatic precipitator must submit a description of the device; test results collected in accordance with §63.7822 verifying the performance of the device for reducing emissions of particulate matter to the atmosphere to the levels required by this subpart; a copy of the operation and maintenance plan required in §63.7800(b); and appropriate operating parameters that will be monitored to maintain continuous compliance with the applicable emission limitation(s). The monitoring plan identifying the operating parameters to be monitored is subject to approval by the Administrator.

(d) For each sinter plant, you must either:

(1) Maintain the 30-day rolling average oil content of the feedstock at or below 0.02 percent; or

(2) Maintain the 30-day rolling average of volatile organic compound emissions from the windbox exhaust stream at or below 0.2 lb/ton of sinter.

Operation and Maintenance Requirements

§63.7800 What are my operation and maintenance requirements?

(a) As required by §63.6(e)(1)(i), you must always operate and maintain your affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this subpart.

(b) You must prepare and operate at all times according to a written operation and maintenance plan for each capture system or control device subject to an operating limit in §63.7790(b). Each plan must address the elements in paragraphs (b)(1) through (5) of this section.

(1) Monthly inspections of the equipment that is important to the performance of the total capture system (e.g., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.

(2) Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

(3) Operating limits for each capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse, or to secondary emissions from a BOPF. You must establish the operating limits according to the requirements in paragraphs (b)(3)(i) through (iii) of this section.

(i) Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a minimum, you must use appropriate operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure.

(ii) For each operating limit parameter selected in paragraph (b)(3)(i) of this section, designate the value or setting for the parameter at which the capture system operates during the process operation. If your operation allows for more than one process to be operating simultaneously, designate the value or setting for the parameter at which the capture system operates during each possible configuration that you may operate.

(iii) Include documentation in your plan to support your selection of the operating limits established for the capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why you chose the parameter, a description of the method used to monitor the parameter according to the requirements of §63.7830(a), and the data used to set the value or setting for the parameter for each of your process configurations.

(4) Corrective action procedures for bag leak detection systems. In the event a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable.

Corrective actions may include, but are not limited to:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media or otherwise repairing the control device.

(iv) Sealing off a defective baghouse compartment.

(v) Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.

(vi) Shutting down the process producing the particulate emissions; and

(5) Procedures for determining and recording the daily sinter plant production rate in tons per hour.

General Compliance Requirements

§63.7810 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operation and maintenance requirements in this subpart at all times, except during periods of startup, shutdown, and malfunction as defined in §63.2.

(b) During the period between the compliance date specified for your affected source in §63.7783 and the date upon which continuous monitoring systems have been installed and certified and any applicable operating limits have been set, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) You must develop and implement a written startup, shutdown, and malfunction plan according to the provisions in §63.6(e)(3).

Initial Compliance Requirements

§63.7820 By what date must I conduct performance tests or other initial compliance demonstrations?

(a) You must conduct a performance test to demonstrate initial compliance with each emission and opacity limit in Table 1 to this subpart that applies to you. You must also conduct a performance test to demonstrate initial compliance with the 30-day rolling average operating limit for the oil content of the sinter plant feedstock in §63.7790(d)(1) or alternative limit for volatile organic compound emissions from the sinter plant windbox exhaust stream in §63.7790(d)(2). You must conduct the performance tests within 180 calendar days after the compliance date that is specified in §63.7783 for your affected source and report the results in your notification of compliance status.

(b) For each operation and maintenance requirement that applies to you where initial compliance is not demonstrated using a performance test or opacity observation, you must demonstrate initial compliance within 30 calendar days after the compliance date that is specified for your affected source in §63.7783.

(c) If you commenced construction or reconstruction between July 13, 2001 and [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], you must demonstrate initial compliance with either the proposed emission limit or the promulgated emission limit no later than [INSERT DATE 180 DAYS AFTER THE DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER] or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) If you commenced construction or reconstruction between July 13, 2001 and [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], and you chose to comply with the proposed emission limit when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limit by [INSERT DATE 3 YEARS

AND 180 DAYS AFTER THE DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

§63.7821 When must I conduct subsequent performance tests?

You must conduct subsequent performance tests to demonstrate compliance with all applicable PM and opacity limits in Table 1 to this subpart no less frequently than twice (at mid-term and renewal) during each term of your title V operating permit. For sources without a title V operating permit, you must conduct subsequent performance tests every 2.5 years.

§63.7822 What test methods and other procedures must I use to demonstrate initial compliance with the emission limits for particulate matter?

(a) You must conduct each performance test that applies to your affected source according to the requirements in §63.7(e)(1) and the conditions detailed in paragraphs (b) through (i) of this section.

(b) To determine compliance with the applicable emission limit for particulate matter in Table 1 to this subpart, follow the test methods and procedures in paragraphs (b)(1) and (2) of this section.

(1) Determine the concentration of particulate matter according to the following test methods in appendix A to part 60 of this chapter:

(i) Method 1 to select sampling port locations and the number of traverse points. Sampling ports must be located at the outlet of the control device and prior to any releases to the atmosphere.

(ii) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

(iv) Method 4 to determine the moisture content of the stack gas.

(v) Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter (front half filterable catch only).

(2) Collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

(c) For each sinter plant windbox exhaust stream, you must complete the requirements of paragraphs (c)(1) and (2) of this section:

(1) Follow the procedures in your operation and maintenance plan for measuring and recording the sinter

$$E_p = \frac{C \times Q}{P \times K} \qquad \text{(Eq. 1)}$$

production rate for each test run in tons per hour; and

(2) Compute the process-weighted mass emissions (E_p) for each test run using Equation 1 of this section as follows:

Where:

E_p = Process-weighted mass emissions of particulate matter, lb/ton;
C = Concentration of particulate matter, grains per dry standard cubic foot (gr/dscf);
Q = Volumetric flow rate of stack gas, dry standard cubic foot per hour (dscf/hr);
P = Production rate of sinter during the test run, tons/hr; and
K = Conversion factor, 7,000 grains per pound (gr/lb).

(d) If you apply two or more control devices in parallel to emissions from a sinter plant discharge end or a BOPF, compute the average flow-weighted concentration for each test run using Equation 2 of this section as follows:

$$C_W = \frac{\sum_{i=1}^{n} C_i Q_i}{\sum_{i=1}^{n} Q_i} \quad \text{(Eq. 2)}$$

Where:

C_w = Flow-weighted concentration, gr/dscf;
C_i = Concentration of particulate matter from exhaust stream "i", gr/dscf; and
Q_i = Volumetric flow rate of effluent gas from exhaust stream "i", dry standard cubic foot per minute (dscfm). Where:
C_w = Flow-weighted concentration, gr/dscf;
C_i = Concentration of particulate matter from exhaust stream "i", gr/dscf; and
Q_i = Volumetric flow rate of effluent gas from exhaust stream "i", dscfm.

(e) For a control device applied to emissions from a blast furnace casthouse, sample for an integral number of furnace tapping operations sufficient to obtain at least 1 hour of sampling for each test run.

(f) For a primary emission control device applied to emissions from a BOPF with a closed hood system, sample only during the primary oxygen blow and do not sample during any subsequent reblows. Continue sampling for each run for an integral number of primary oxygen blows.

(g) For a primary emission control system applied to emissions from a BOPF with an open hood system and for a control device applied solely to secondary emissions from a BOPF, you must complete the requirements of paragraphs (g)(1) and (2) of this section:

(1) Sample only during the steel production cycle. Conduct sampling under conditions that are representative of normal operation. Record the start and end time of each steel production cycle and each period of abnormal operation; and

(2) Sample for an integral number of steel production cycles. The steel production cycle begins when the scrap is charged to the furnace and ends 3 minutes after the slag is emptied from the vessel into the slag pot.

(h) For a control device applied to emissions from BOPF shop ancillary operations (hot metal transfer, skimming, desulfurization, or ladle metallurgy), sample only when the operation(s) is being conducted.

(i) Subject to approval by the permitting authority, you may conduct representative sampling of stacks when there are more than three stacks associated with a process.

§63.7823 What test methods and other procedures must I use to demonstrate initial compliance with the opacity limits?

(a) You must conduct each performance test that applies to your affected source according to the requirements in §63.7(h)(5) and the conditions detailed in paragraphs (b) through (d) of this section.

(b) You must conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter.

(c) To determine compliance with the applicable opacity limit in Table 1 to this subpart for a sinter plant discharge end or a blast furnace casthouse:

(1) Using a certified observer, determine the opacity of emissions according to Method 9 in appendix A to part 60 of this chapter.

(2) Obtain a minimum of 30 6-minute block averages. For a blast furnace casthouse, make observations during tapping of the furnace. Tapping begins when the furnace is opened, usually by creating a hole near the bottom of the furnace, and ends when the hole is plugged.

(d) To determine compliance with the applicable opacity limit in Table 1 to this subpart for BOPF shops:

(1) For an existing BOPF shop:

(i) Using a certified observer, determine the opacity of emissions according to Method 9 in appendix A to part 60 of this chapter except as specified in paragraphs (d)(1)(ii) and (iii) of this section.

(ii) Instead of procedures in section 2.4 of Method 9 in appendix A to part 60 of this chapter, record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles.

(iii) Instead of procedures in section 2.5 of Method 9 in appendix A to part 60 of this chapter, determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals.

(2) For a new BOPF shop housing a bottom-blown BOPF:

(i) Using a certified observer, determine the opacity of emissions according to Method 9 in appendix A to part 60 of this chapter.

(ii) Determine the highest and second highest sets of 6-minute block average opacities for each steel production cycle.

(3) For a new BOPF shop housing a top-blown BOPF:

(i) Determine the opacity of emissions according to the requirements for an existing BOPF shop in paragraphs (d)(1)(i) through (iii) of this section.

(ii) Determine the highest and second highest sets of 3-minute block average opacities for each steel production cycle.

(4) Opacity observations must cover the entire steel production cycle and must be made for at least three cycles. The steel production cycle begins when the scrap is charged to the furnace and ends 3 minutes after the slag is emptied from the vessel into the slag pot.

(5) Determine and record the starting and stopping times of the steel production cycle.

§63.7824 What test methods and other procedures must I use to establish and demonstrate initial compliance with operating limits?

(a) For each capture system subject to an operating limit in §63.7790(b)(1), you must certify that the system operated during the performance test at the site-specific operating limits established in your operation and maintenance plan using the procedures in paragraphs (a)(1) through (4) of this section.

(1) Concurrent with all opacity observations,

measure and record values for each of the operating limit parameters in your capture system operation and maintenance plan according to the monitoring requirements specified in §63.7830(a).

(2) For any dampers that are manually set and remain at the same position at all times the capture system is operating, the damper position must be visually checked and recorded at the beginning and end of each opacity observation period segment.

(3) Review and record the monitoring data. Identify and explain any times the capture system operated outside the applicable operating limits.

(4) Certify in your performance test report that during all observation period segments, the capture system was operating at the values or settings established in your capture system operation and maintenance plan.

(b) For a venturi scrubber subject to operating limits for pressure drop and scrubber water flow rate in §63.7790(b)(2), you must establish site-specific operating limits according to the procedures in paragraphs (b)(1) and (2) of this section.

(1) Using the continuous parameter monitoring

system (CPMS) required in §63.7830(c), measure and record the pressure drop and scrubber water flow rate during each run of the particulate matter performance test.

(2) Compute and record the hourly average pressure drop and scrubber water flow rate for each individual test run. Your operating limits are the lowest average pressure drop and scrubber water flow rate value in any of the three runs that meet the applicable emission limit.

(c) For an electrostatic precipitator subject to the operating limit in §63.7790(b)(3) for opacity, you must establish a site-specific operating limit according to the procedures in paragraphs (c)(1) through (3) of this section.

(1) Using the continuous opacity monitoring system (COMS) required in §63.7830(d), measure and record the opacity of emissions from each control device stack during each run of the particulate matter performance test.

(2) Compute and record the 6-minute block average opacity from 36 or more data points equally spaced over each 6-minute period during the test runs.

(3) Determine, based on the 6-minute block

averages, the opacity value corresponding to the 99 percent upper confidence limit on the mean of a normal distribution of average opacity values.

(d) You may change the operating limits for a capture system, venturi scrubber, or electrostatic precipitator if you meet the requirements in paragraphs (d)(1) through (3) of this section.

(1) Submit a written notification to the Administrator of your request to conduct a new performance test to revise the operating limit.

(2) Conduct a performance test to demonstrate compliance with the applicable emission limitation in Table 1 to this subpart.

(3) Establish revised operating limits according to the applicable procedures in paragraphs (a) through (c) of this section for a control device or capture system.

(e) For each sinter plant subject to the operating limit for the oil content of the sinter plant feedstock in §63.7790(d)(1), you must demonstrate initial compliance according to the procedures in paragraphs (e)(1) through (3) of this section.

(1) Sample the feedstock at least three times a day (once every 8 hours), composite the three samples each

day, and analyze the composited samples using Method 9071B in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846 (Revision 2, April 1998). Record the sampling date and time, oil content values, and sinter produced (tons/day).

(2) Continue the sampling and analysis procedure for 30 consecutive days.

(3) Each day, compute and record the 30-day rolling average using that day’s value and the 29 previous daily values.

(f) To demonstrate initial compliance with the alternative operating limit for volatile organic compound emissions from the sinter plant windbox exhaust stream in §63.7790(d)(2), follow the test methods and procedures in paragraphs (f)(1) through (5) of this section.

(1) Determine the volatile organic compound emissions according to the following test methods in appendix A to part 60 of this chapter:

(i) Method 1 to select sampling port locations and the number of traverse points. Sampling ports must be located at the outlet of the control device and prior to any releases to the atmosphere.

(ii) Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

(iv) Method 4 to determine the moisture content of the stack gas.

(v) Method 25 to determine the mass concentration of volatile organic compound emissions (total gaseous nonmethane organics as carbon) from the sinter plant windbox exhaust stream stack.

(2) Determine volatile organic compound (VOC) emissions every 24 hours (from at least three samples taken at 8-hour intervals) using Method 25 in 40 CFR part 60, appendix A. Record the sampling date and time, sampling results, and sinter produced (tons/day).

$$E_v = \frac{M_C \times Q}{35.31 \times 454{,}000 \times K} \qquad \text{(Eq. 1)}$$

(3) Compute the process-weighted mass emissions (E_v) each day using Equation 1 of this section as follows:

Where:

E_v = Process-weighted mass emissions of volatile organic compounds, lb/ton;
M_c = Average concentration of total gaseous nonmethane organics as carbon by Method 25 (40 CFR part 60, appendix A), milligrams per dry standard cubic meters (mg/dscm) for each day;
Q = Volumetric flow rate of stack gas, dscf/hr;
35.31 = Conversion factor (dscf/dscm);
454,000 = Conversion factor (mg/lb); and
K = Daily production rate of sinter, tons/hr.

(4) Continue the sampling and analysis procedure in paragraphs (f)(1) through (3) of this section for 30 consecutive days.

(5) Compute and record the 30-day rolling average of VOC emissions for each operating day.

(g) You may use an alternative test method to determine the oil content of the sinter plant feedstock or the volatile organic compound emissions from the sinter plant windbox exhaust stack if you have already demonstrated the equivalency of the alternative method for a specific plant and have received previous approval from the applicable permitting authority.

§63.7825 How do I demonstrate initial compliance with the emission limitations that apply to me?

(a) For each affected source subject to an emission or opacity limit in Table 1 to this subpart, you have demonstrated initial compliance if:

(1) You meet the conditions in Table 2 to this subpart; and

(2) For each capture system subject to the operating limit in §63.7790(b)(1), you have established appropriate site-specific operating limit(s) and have a record of the operating parameter data measured during the performance test in accordance with §63.7824(a)(1).

(3) For each venturi scrubber subject to the operating limits for pressure drop and scrubber water flow rate in §63.7790(b)(2), you have established appropriate site-specific operating limits and have a record of the pressure drop and scrubber water flow rate measured during the performance test in accordance with §63.7824(b); and

(4) For each electrostatic precipitator subject to the opacity operating limit in §63.7790(b)(3), you have established an appropriate site-specific operating limit and have a record of the opacity measurements made during the performance test in accordance with §63.7824(c).

(b) For each existing or new sinter plant subject to the operating limit in §63.7790(d)(1), you have demonstrated initial compliance if the 30-day rolling average of the oil content of the feedstock, measured during the initial performance test in accordance with §63.7824(e) is no more than 0.02 percent or the volatile organic compound emissions from the sinter plant windbox exhaust stream, measured during the initial performance test in accordance with §63.7824(f), is no more than 0.2 lb/ton of sinter produced.

(c) For each emission limitation that applies to you, you must submit a notification of compliance status according to §63.7840(e).

§63.7826 How do I demonstrate initial compliance with the operation and maintenance requirements that apply to me?

(a) For a capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse or to secondary emissions from a BOPF, you have demonstrated initial compliance if you meet all of the conditions in paragraphs (a)(1) through (4) of this section.

(1) Prepared the capture system operation and maintenance plan according to the requirements of §63.7800(b), including monthly inspection procedures and detailed descriptions of the operating parameter(s) selected to monitor the capture system;

(2) Certified in your performance test report that the system operated during the test at the operating limits established in your operation and maintenance plan;

(3) Submitted a notification of compliance status according to the requirements in §63.7840(e), including a copy of the capture system operation and maintenance plan and your certification that you will operate the capture system at the values or settings established for the operating limits in that plan; and

(4) Prepared a site-specific monitoring plan according to the requirements in §63.7831(a).

(b) For each control device subject to operating limits in §63.7790(b)(2) or (3), you have demonstrated initial compliance if you meet all the conditions in paragraphs (b)(1) through (3) of this section.

(1) Prepared the control device operation and maintenance plan according to the requirements of §63.7800(b), including a preventative maintenance schedule and, if applicable, detailed descriptions of the procedures you use for corrective action for baghouses;

(2) Submitted a notification of compliance status according to the requirements in §63.7840(e), including a

copy of the operation and maintenance plan; and

(3) Prepared a site-specific monitoring plan according to the requirements in §63.7831(a).

Continuous Compliance Requirements

§63.7830 What are my monitoring requirements?

(a) For each capture system subject to an operating limit in §63.7790(b)(1) established in your capture system operation and maintenance plan, you must install, operate, and maintain a CPMS according to the requirements in §63.7831(e) and the requirements in paragraphs (a)(1) through (3) of this section.

(1) Dampers that are manually set and remain in the same position are exempt from the requirement to install and operate a CPMS. If dampers are not manually set and remain in the same position, you must make a visual check at least once every 24 hours to verify that each damper for the capture system is in the same position as during the initial performance test.

(2) If you use a flow measurement device to monitor the operating limit parameter for a sinter plant discharge end or blast furnace casthouse, you must monitor the hourly average rate (e.g., the hourly average actual volumetric flow rate through each separately

ducted hood, the average hourly total volumetric flow rate at the inlet to the control device) according to the requirements in §63.7832.

(3) If you use a flow measurement device to monitor the operating limit parameter for a capture system applied to secondary emissions from a BOPF, you must monitor the average rate for each steel production cycle (e.g., the average actual volumetric flow rate through each separately ducted hood for each steel production cycle, the average total volumetric flow rate at the inlet to the control device for each steel production cycle) according to the requirements in §63.7832.

(b) For each baghouse applied to meet any particulate emission limit in Table 1 of this subpart, you must install, operate, and maintain a bag leak detection system according to §63.7831(f), monitor the relative change in particulate matter loadings according to the requirements in §63.7832, and conduct inspections at their specified frequencies according to the requirements in paragraphs (b)(1) through (8) of this section.

(1) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the

normal operating range identified in the manual.

(2) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.

(3) Check the compressed air supply for pulse-jet baghouses each day.

(4) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.

(5) Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.

(6) Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.

(7) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.

(8) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

(c) For each venturi scrubber subject to the operating limits for pressure drop and scrubber water flow rate in §63.7790(b)(2), you must install, operate, and maintain CPMS according to the requirements in §63.7831(g) and monitor the hourly average pressure drop and water flow rate according to the requirements in §63.7832.

(d) For each electrostatic precipitator subject to the opacity operating limit in §63.7790(b)(3), you must install, operate, and maintain a COMS according to the requirements in §63.7831(h) and monitor the 6-minute average opacity of emissions exiting each control device stack according to the requirements in §63.7832.

(e) For each sinter plant subject to the operating limit in §63.7790(d), you must either:

(1) Compute and record the 30-day rolling average of the oil content of the feedstock for each operating day using the procedures in §63.7824(e); or

(2) Compute and record the 30-day rolling average of volatile organic compound emissions (lbs/ton of sinter) for each operating day using the procedures in §63.7824(f).

§63.7831 What are the installation, operation, and maintenance requirements for my monitors?

(a) For each CPMS required in §63.7830, you must develop and make available for inspection upon request by the permitting authority a site-specific monitoring plan that addresses the requirements in paragraphs (a)(1) through (6) of this section.

(1) Installation of the CPMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

(2) Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system;

(3) Performance evaluation procedures and acceptance criteria (e.g., calibrations);

(4) Ongoing operation and maintenance procedures in accordance with the general requirements of §§63.8(c)(1), (3), (4)(ii), (7), and (8);

(5) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(6) Ongoing recordkeeping and reporting procedures in accordance the general requirements of §§63.10(c), (e)(1), and (e)(2)(i).

(b) Unless otherwise specified, each CPMS must:

(1) Complete a minimum of one cycle of operation for each successive 15-minute period and collect a minimum of three of the required four data points to constitute a valid hour of data;

(2) Provide valid hourly data for at least 95 percent of every averaging period; and

(3) Determine and record the hourly average of all recorded readings.

(c) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(d) You must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan.

(e) For each capture system subject to an operating limit in §63.7790(b)(1), you must install, operate, and maintain each CPMS according to the requirements in paragraphs (a) through (d) of this section.

(f) For each baghouse applied to meet any particulate emission limit in Table 1 of this subpart, you must install, operate, and maintain a bag leak detection system according to the requirements in paragraphs (f)(1) through (7) of this section.

(1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(2) The system must provide output of relative changes in particulate matter loadings.

(3) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it can be heard by the appropriate plant personnel.

(4) Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, “Fabric Filter Bag Leak Detection Guidance,” EPA-454/R-98-015, September 1997. You may install, operate, and maintain other types of bag leak detection systems in a manner consistent with the manufacturer’s written specifications and recommendations.

(5) To make the initial adjustment of the system, establish the baseline output by adjusting the

sensitivity (range) and the averaging period of the device. Then, establish the alarm set points and the alarm delay time.

(6) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in your operation and maintenance plan. Do not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition.

(7) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(g) For each venturi scrubber subject to operating limits in §63.7790(b)(2) for pressure drop and scrubber water flow rate, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (a) through (d) of this section.

(h) For each electrostatic precipitator subject to the opacity operating limit in §63.7790(b)(3), you must install, operate, and maintain each COMS according to the requirements in paragraphs (h)(1) through (4) of this section.

(1) You must install, operate, and maintain each COMS according to Performance Specification 1 in 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to §63.8 and Performance Specification 1 in appendix B to 40 CFR part 60.

(3) Each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) COMS data must be reduced as specified in §63.8(g)(2).

§63.7832 How do I monitor and collect data to demonstrate continuous compliance?

(a) Except for monitoring malfunctions, out-of-control periods as specified in §63.8(c)(7), associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times an affected source is operating.

(b) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing compliance.

(c) A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

§63.7833 How do I demonstrate continuous compliance with the emission limitations that apply to me?

(a) You must demonstrate continuous compliance for each affected source subject to an emission or opacity limit in §63.7790(a) by meeting the requirements in Table 3 to this subpart.

(b) You must demonstrate continuous compliance for each capture system subject to an operating limit in §63.7790(b)(1) by meeting the requirements in paragraphs (b)(1) and (2) of this section.

(1) Operate the capture system at or above the

lowest values or settings established for the operating limits in your operation and maintenance plan; and

(2) Monitor the capture system according to the requirements in §63.7830(a) and collect, reduce, and record the monitoring data for each of the operating limit parameters according to the applicable requirements of this subpart;

(c) For each baghouse applied to meet any particulate emission limit in Table 1 to this subpart, you must demonstrate continuous compliance by completing the requirements in paragraphs (c)(1) and (2) of this section:

(1) Maintaining records of the time you initiated corrective action in the event of a bag leak detection system alarm, the corrective action(s) taken, and the date on which corrective action was completed.

(2) Inspecting and maintaining each baghouse according to the requirements in §63.7831(f) and recording all information needed to document conformance with these requirements. If you increase or decrease the sensitivity of the bag leak detection system beyond the limits specified in §63.7831(f)(6), you must include a copy of the required written certification by a

responsible official in the next semiannual compliance report.

(d) For each venturi scrubber subject to the operating limits for pressure drop and scrubber water flow rate in §63.7790(b)(2), you must demonstrate continuous compliance by completing the requirements of paragraphs (d)(1) through (3) of this section:

(1) Maintaining the hourly average pressure drop and scrubber water flow rate at levels no lower than those established during the initial or subsequent performance test;

(2) Operating and maintaining each venturi scrubber CPMS according to §63.7831(g) and recording all information needed to document conformance with these requirements; and

(3) Collecting and reducing monitoring data for pressure drop and scrubber water flow rate according to §63.7831(b) and recording all information needed to document conformance with these requirements.

(e) For each electrostatic precipitator subject to the site-specific opacity operating limit in §63.7790(b)(3), you must demonstrate continuous compliance by completing the requirements of paragraphs (e)(1) and (2) of this section:

(1) Maintaining the average opacity of emissions for each 6-minute period no higher than the site-specific limit established during the initial or subsequent performance test; and

(2) Operating and maintaining each COMS and reducing the COMS data according to §63.7831(h).

(f) For each new or existing sinter plant subject to the operating limit in §63.7790(d), you must demonstrate continuous compliance by either:

(1) For the sinter plant feedstock oil content operating limit in §63.7790(d)(1),

(i) Computing and recording the 30-day rolling average of the percent oil content for each operating day according to the performance test procedures in §63.7824(e);

(ii) Recording the sampling date and time, oil content values, and sinter produced (tons/day); and

(iii) Maintaining the 30-day rolling average oil content of the feedstock no higher than 0.02 percent.

(2) For the volatile organic compound operating limit in §63.7790(d)(2),

(i) Computing and recording the 30-day rolling average of volatile organic compound emissions for each operating day according to the performance test procedures in §63.7824(f);

(ii) Recording the sampling date and time, sampling values, and sinter produced (tons/day); and

(iii) Maintaining the 30-day rolling average of volatile organic compound emissions no higher than 0.2 lb/ton of sinter produced.

§63.7834 How do I demonstrate continuous compliance with the operation and maintenance requirements that apply to me?

(a) For each capture system and control device subject to an operating limit in §63.7790(b), you must demonstrate continuous compliance with the operation and maintenance requirements in §63.7800(b) by meeting the requirements of paragraphs (a)(1) through (3) of this section:

(1) Making monthly inspections of capture systems and initiating corrective action according to §63.7800(b)(1) and recording all information needed to document conformance with these requirements;

(2) Performing preventative maintenance according to §63.7800(b)(2) and recording all information needed to

document conformance with these requirements; and

(3) Initiating and completing corrective action for a bag leak detection system alarm according to §63.7800(b)(4) and recording all information needed to document conformance with these requirements.

(b) You must maintain a current copy of the operation and maintenance plan required in §63.7800(b) onsite and available for inspection upon request. You must keep the plans for the life of the affected source or until the affected source is no longer subject to the requirements of this subpart.

<u>§63.7835 What other requirements must I meet to demonstrate continuous compliance</u>?

(a) <u>Deviations</u>. You must report each instance in which you did not meet each emission limitation in §63.7790 that applies to you. This includes periods of startup, shutdown, and malfunction. You also must report each instance in which you did not meet each operation and maintenance requirement in §63.7800 that applies to you. These instances are deviations from the emission limitations and operation and maintenance requirements in this subpart. These deviations must be reported according to the requirements in §63.7841.

(b) Startups, shutdowns, and malfunctions. During periods of startup, shutdown, and malfunction, you must operate in accordance with your startup, shutdown, and malfunction plan.

(1) Consistent with §§63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan.

(2) The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in §63.6(e).

Notifications, Reports, and Records

§63.7840 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.6(h)(4) and (5), 63.7(b) and (c), 63.8(e) and (f)(4), and 63.9(b) through (h) that apply to you by the specified dates.

(b) As specified in §63.9(b)(2), if you startup your affected source before [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], you must submit your initial notification no later than [INSERT DATE 120 DAYS AFTER THE DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER].

(c) As specified in §63.9(b)(3), if you start your new affected source on or after [INSERT DATE OF PUBLICATION OF THIS FINAL RULE IN THE FEDERAL REGISTER], you must submit your initial notification no later than 120 calendar days after you become subject to this subpart.

(d) If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required in §63.7(b)(1).

(e) If you are required to conduct a performance test, opacity observation, or other initial compliance demonstration, you must submit a notification of compliance status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration that does not include a performance test, you must submit the notification of compliance status before the close of business on the 30th calendar day following completion of the initial compliance demonstration.

(2) For each initial compliance demonstration that does include a performance test, you must submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to §63.10(d)(2).

§63.7841 What reports must I submit and when?

(a) Compliance report due dates. Unless the Administrator has approved a different schedule, you must submit a semiannual compliance report to your permitting authority according to the requirements in paragraphs (a)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.7783 and ending on June 30 or December 31, whichever date comes first after the compliance date that is specified for your source in §63.7783.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after your first compliance report is due.

(3) Each subsequent compliance report must cover

the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (a)(1) through (4) of this section.

(b) Compliance report contents. Each compliance report must include the information in paragraphs (b)(1) through (3) of this section and, as applicable, paragraphs (b)(4) through (8) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the

truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there were no deviations from the continuous compliance requirements in §§63.7833 and 63.7834 that apply to you, a statement that there were no deviations from the emission limitations or operation and maintenance requirements during the reporting period.

(6) If there were no periods during which a continuous monitoring system (including a CPMS, COMS, or continuous emission monitoring system (CEMS) was out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

(7) For each deviation from an emission limitation in §63.7790 that occurs at an affected source where you are not using a continuous monitoring system (including a

CPMS, COMS, or CEMS) to comply with an emission limitation in this subpart, the compliance report must contain the information in paragraphs (b)(1) through (4) of this section and the information in paragraphs (b)(7)(i) and (ii) of this section. This includes periods of startup, shutdown, and malfunction.

(i) The total operating time of each affected source during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

(8) For each deviation from an emission limitation occurring at an affected source where you are using a continuous monitoring system (including a CPMS or COMS) to comply with the emission limitation in this subpart, you must include the information in paragraphs (b)(1) through (4) of this section and the information in paragraphs (b)(8)(i) through (xi) of this section. This includes periods of startup, shutdown, and malfunction.

(i) The date and time that each malfunction started and stopped.

(ii) The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time, and duration that each continuous monitoring system was out-of-control as specified in §63.8(c)(7), including the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(v) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period including those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

(viii) A brief description of the process units.

(ix) A brief description of the continuous monitoring system.

(x) The date of the latest continuous monitoring system certification or audit.

(xi) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

(c) Immediate startup, shutdown, and malfunction report. If you had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with your startup, shutdown, and malfunction plan, you must submit an immediate startup, shutdown, and malfunction report according to the requirements in §63.10(d)(5)(ii).

(d) Part 70 monitoring report. If you have obtained a title V operating permit for an affected source pursuant to 40 CFR part 70 or 71, you must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If you submit a compliance report for an affected source along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emission limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation you may have to report deviations from permit requirements for an affected source to your permitting authority.

§63.7842 What records must I keep?

(a) You must keep the following records:

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance status that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, performance evaluations, and opacity observations as required in §63.10(b)(2)(viii).

(b) For each COMS, you must keep the records specified in paragraphs (b)(1) through (4) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Monitoring data for a performance evaluation as required in §63.6(h)(7)(i) and (ii).

(3) Previous (that is, superceded) versions of the performance evaluation plan as required in §63.8(d)(3).

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records required in §63.6(h)(6) for visual observations.

(d) You must keep the records required in §§63.7833 and 63.7834 to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to you.

<u>§63.7843 In what form and how long must I keep my records</u>?

(a) Your records must be in a form suitable and readily available for expeditious review, according to

§63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep reach record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). You can keep the records offsite for the remaining 3 years.

Other Requirements and Information

§63.7850 What parts of the General Provisions apply to me?

Table 4 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§63.7851 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the United States Environmental Protection Agency (U.S. EPA), or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your U.S.

EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternative opacity emission limits in Table 1 to this subpart under §63.6(h)(9).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90, except for approval of an alternative method for the oil content of the sinter plant feedstock or volatile organic compound measurements for the sinter plant windbox exhaust stream stack as provided in §63.7824(g).

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

§63.7852 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2, and in this section as follows.

Bag leak detection system means a system that is capable of continuously monitoring relative particulate matter (dust) loadings in the exhaust of a baghouse to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on tribroelectric, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

Basic oxygen process furnace means any refractory-lined vessel in which high-purity oxygen is blown under pressure through a bath of molten iron, scrap metal, and fluxes to produce steel. This definition includes both top and bottom blown furnaces, but does not include argon oxygen decarburization furnaces.

Basic oxygen process furnace shop means the place where steelmaking operations that begin with the transfer of molten iron (hot metal) from the torpedo car and end prior to casting the molten steel, including hot metal transfer, desulfurization, slag skimming, refining in a basic oxygen process furnace, and ladle metallurgy occur.

Basic oxygen process furnace shop ancillary operations means the processes where hot metal transfer, hot metal desulfurization, slag skimming, and ladle metallurgy occur.

Blast furnace means a furnace used for the production of molten iron from iron ore and other iron bearing materials.

Bottom-blown furnace means any basic oxygen process furnace in which oxygen and other combustion gases are introduced into the bath of molten iron through tuyeres in the bottom of the vessel or through tuyeres in the bottom and sides of the vessel.

Casthouse means the building or structure that encloses the bottom portion of a blast furnace where the hot metal and slag are tapped from the furnace.

Certified observer means a visible emission observer certified to perform EPA Method 9 opacity observations.

Desulfurization means the process in which reagents such as magnesium, soda ash, and lime are injected into the hot metal, usually with dry air or nitrogen, to remove sulfur.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation (including operating limits) or operation and maintenance requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Discharge end means the place where those operations conducted within the sinter plant starting at the discharge of the sintering machine’s traveling grate including (but not limited to) hot sinter crushing, screening, and transfer operations occur.

Emission limitation means any emission limit, opacity limit, or operating limit.

Hot metal transfer station means the location in a basic oxygen process furnace shop where molten iron (hot metal) is transferred from a torpedo car or hot metal car used to transport hot metal from the blast furnace casthouse to a holding vessel or ladle in the basic oxygen process furnace shop. This location also is known as the reladling station or ladle transfer station.

Integrated iron and steel manufacturing facility means an establishment engaged in the production of steel from iron ore.

Ladle metallurgy means a secondary steelmaking process that is performed typically in a ladle after initial refining in a basic oxygen process furnace to adjust or amend the chemical and/or mechanical properties of steel.

Primary emissions means particulate matter emissions from the basic oxygen process furnace generated during the steel production cycle which are captured and treated in the furnace’s primary emission control system.

Primary emission control system means the combination of equipment used for the capture and collection of primary emissions (e.g., an open hood capture system used in conjunction with an electrostatic precipitator or a closed hood system used in conjunction with a scrubber).

Primary oxygen blow means the period in the steel production cycle of a basic oxygen process furnace during which oxygen is blown through the molten iron bath by means of a lance inserted from the top of the vessel (top-blown) or through tuyeres in the bottom and/or sides of the vessel (bottom-blown).

Responsible official means responsible official as defined in §63.2.

Secondary emissions means particulate matter emissions that are not controlled by a primary emission control system, including emissions that escape from open and closed hoods, lance hole openings, and gaps or tears in ductwork to the primary emission control system.

Secondary emission control system means the combination of equipment used for the capture and collection of secondary emissions from a basic oxygen process furnace.

Sinter cooler means the apparatus used to cool the hot sinter product that is transferred from the discharge end through contact with large volumes of induced or forced draft air.

Sinter plant means the machine used to produce a fused clinker-like aggregate or sinter of fine iron-bearing materials suited for use in a blast furnace. The machine is composed of a continuous traveling grate that conveys a bed of ore fines and other finely divided iron-bearing material and fuel (typically coke breeze), a burner at the feed end of the grate for ignition, and a series of downdraft windboxes along the length of the strand to support downdraft combustion and heat sufficient to produce a fused sinter product.

Skimming station means the locations inside a basic oxygen process furnace shop where slag is removed from the top of the molten metal bath.

Steel production cycle means the operations conducted within the basic oxygen process furnace shop that are required to produce each batch of steel. The following operations are included: scrap charging, preheating (when done), hot metal charging, primary oxygen blowing, sampling, (vessel turndown and turnup), additional oxygen blowing (when done), tapping, and deslagging. The steel production cycle begins when the scrap is charged to the furnace and ends after the slag is emptied from the vessel into the slag pot.

Top-blown furnace means any basic oxygen process furnace in which oxygen is introduced into the bath of molten iron by means of an oxygen lance inserted from the top of the vessel.

Windboxes means the compartments that provide for a controlled distribution of downdraft combustion air as it is drawn through the sinter bed of a sinter plant to make the fused sinter product.

Tables to Subpart FFFFF of Part 63

As required in §63.7790(a), you must comply with each applicable emission and opacity limit in the following table:

Table 1 to Subpart FFFFF of Part 63. Emission and Opacity Limits

For...	**You must comply with each of the following...**
1. Each windbox exhaust stream at an existing sinter plant	You must not cause to be discharged to the atmosphere any gases that contain particulate matter in excess of 0.4 lb/ton of product sinter.
2. Each windbox exhaust stream at a new sinter plant	You must not cause to be discharged to the atmosphere any gases that contain particulate matter in excess of 0.3 lb/ton of product sinter.
3. Each discharge end at an existing sinter plant	a. You must not cause to be discharged to the atmosphere any gases that exit from one or more control devices that contain, on a flow-weighted basis, particulate matter in excess of 0.02 gr/dscf[1]; and b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the building or structure housing the discharge end that exhibit opacity greater than 20 percent (6-minute average).

4. Each discharge end at a new sinter plant	a. You must not cause to be discharged to the atmosphere any gases that exit from one or more control devices that contain, on a flow weighted basis, particulate matter in excess of 0.01 gr/dscf; and b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the building or structure housing the discharge end that exhibit opacity greater than 10 percent (6-minute average).
5. Each sinter cooler stack at an existing sinter plant	You must not cause to be discharged to the atmosphere any gases that contain particulate matter in excess of 0.03 gr/dscf.
6. Each sinter cooler stack at a new sinter plant	You must not cause to be discharged to the atmosphere any gases that contain particulate matter in excess of 0.01 gr/dscf.
7. Each casthouse at an existing blast furnace	a. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.01 gr/dscf; and b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the casthouse or structure housing the blast furnace that exhibit opacity greater than 20 percent (6-minute average).

8. Each casthouse at a new blast furnace	a. You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.003 gr/dscf; and b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the casthouse or structure housing the blast furnace that exhibit opacity greater than 15 percent (6-minute average).

9. Each BOPF at a new or existing BOPF shop	a. You must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF with a closed hood system at a new or existing BOPF shop that contain, on a flow-weighted basis, particulate matter in excess of 0.03 gr/dscf during the primary oxygen blow[2]; b. You must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF with an open hood system that contain, on a flow-weighted basis, particulate matter in excess of 0.02 gr/dscf during the steel production cycle for an existing BOPF shop or 0.01 gr/dscf during the steel production cycle for a new BOPF shop[2]; and c. You must not cause to be discharged to the atmosphere any gases that exit from a control device used solely for the collection of secondary emissions from the BOPF that contain particulate matter in excess of 0.01 gr/dscf for an existing BOPF shop or 0.0052 gr/dscf for a new BOPF shop.
10. Each hot metal transfer, skimming, and desulfurization operation at a new or existing BOPF shop	You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.01 gr/dscf for an existing BOPF shop or 0.003 gr/dscf for a new BOPF shop.

11.	Each ladle metallurgy operation at a new or existing BOPF shop	You must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.01 gr/dscf for an existing BOPF shop or 0.004 gr/dscf for a new BOPF shop.
12.	Each roof monitor at an existing BOPF shop	You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the BOPF shop or any other building housing the BOPF or BOPF shop operation that exhibit opacity greater than 20 percent (3-minute average).
13.	Each roof monitor at a new BOPF shop	a. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the BOPF shop or other building housing a bottom-blown BOPF or BOPF shop operations that exhibit opacity (for any set of 6-minute averages) greater than 10 percent, except that one 6-minute period not to exceed 20 percent may occur once per steel production cycle; or b. You must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the BOPF shop or other building housing a top-blown BOPF or BOPF shop operations that exhibit opacity (for any set of 3-minute averages) greater than 10 percent, except that one 3-minute period greater than 10 percent but less than 20 percent may occur once per steel production cycle.

[1] This limit applies if the cooler is vented to the same control device as the discharge end.
[2] This limit applies to control devices operated in parallel for a single BOPF during the oxygen blow.

As required in §63.7825(a)(1), you must demonstrate initial compliance with the emission and opacity limits according to the following table:

Table 2 to Subpart FFFFF of Part 63. Initial Compliance with Emission and Opacity Limits

For...	You have demonstrated initial compliance if...
1. Each windbox exhaust stream at an existing sinter plant	The process-weighted mass rate of particulate matter from a windbox exhaust stream, measured according to the performance test procedures in §63.7822(c), did not exceed 0.4 lb/ton of product sinter.
2. Each windbox exhaust stream at a new sinter plant	The process-weighted mass rate of particulate matter from a windbox exhaust stream, measured according to the performance test procedures in §63.7822(c), did not exceed 0.3 lb/ton of product sinter.
3. Each discharge end at an existing sinter plant	a. The flow-weighted average concentration of particulate matter from one or more control devices applied to emissions from a discharge end, measured according to the performance test procedures in §63.7822(d), did not exceed 0.02 gr/dscf; and b. The opacity of secondary emissions from each discharge end, determined according to the performance test procedures in §63.7823(c), did not exceed 20 percent (6-minute average).

4. Each discharge end at a new sinter plant	a. The flow-weighted average concentration of particulate matter from one or more control devices applied to emissions from a discharge end, measured according to the performance test procedures in §63.7822(d), did not exceed 0.01 gr/dscf; and b. The opacity of secondary emissions from each discharge end, determined according to the performance test procedures in §63.7823(c), did not exceed 10 percent (6-minute average).
5. Each sinter cooler stack at an existing sinter plant	The average concentration of particulate matter from a sinter cooler stack, measured according to the performance test procedures in §63.7822(b), did not exceed 0.03 gr/dscf.
6. Each sinter cooler stack at a new sinter plant	The average concentration of particulate matter from a sinter cooler stack, measured according to the performance test procedures in §63.7822(b), did not exceed 0.01 gr/dscf.
7. Each casthouse at an existing blast furnace	a. The average concentration of particulate matter from a control device applied to emissions from a casthouse, measured according to the performance test procedures in §63.7822(e), did not exceed 0.01 gr/dscf; and b. The opacity of secondary emissions from each casthouse, determined according to the performance test procedures in §63.7823(c), did not exceed 20 percent (6-minute average).

8. Each casthouse at a new blast furnace	a. The average concentration of particulate matter from a control device applied to emissions from a casthouse, measured according to the performance test procedures in §63.7822(e), did not exceed 0.003 gr/dscf; and b. The opacity of secondary emissions from each casthouse, determined according to the performance test procedures in §63.7823(c), did not exceed 15 percent (6-minute average).

9. Each BOPF at a new or existing BOPF shop	a. The average concentration of particulate matter from a primary emission control system applied to emissions from a BOPF with a closed hood system, measured according to the performance test procedures in §63.7822(f), did not exceed 0.03 gr/dscf for a new or existing BOPF shop; b. The average concentration of particulate matter from a primary emission control system applied to emissions from a BOPF with an open hood system, measured according to the performance test procedures in §63.7822(g), did not exceed 0.02 gr/dscf for an existing BOPF shop or 0.01 gr/dscf for a new BOPF shop; and c. The average concentration of particulate matter from a control device applied solely to secondary emissions from a BOPF, measured according to the performance test procedures in §63.7822(g), did not exceed 0.01 gr/dscf for an existing BOPF shop or 0.0052 gr/dscf for a new BOPF shop.
10. Each hot metal transfer, skimming, and desulfurization at a new or existing BOPF shop	The average concentration of particulate matter from a control device applied to emissions from hot metal transfer, skimming, or desulfurization, measured according to the performance test procedures in §63.7822(h), did not exceed 0.01 gr/dscf for an existing BOPF shop or 0.003 gr/dscf for a new BOPF shop.

11. Each ladle metallurgy operation at a new or existing BOPF shop	The average concentration of particulate matter from a control device applied to emissions from a ladle metallurgy operation, measured according to the performance test procedures in §63.7822(h), did not exceed 0.01 gr/dscf for an existing BOPF shop or 0.004 gr/dscf for a new BOPF shop.
12. Each roof monitor at an existing BOPF shop	The opacity of secondary emissions from each BOPF shop, determined according to the performance test procedures in §63.7823(d), did not exceed 20 percent (3-minute average).
13. Each roof monitor at a new BOPF shop	a. The opacity of the highest set of 6-minute averages from each BOPF shop housing a bottom-blown BOPF, determined according to the performance test procedures in §63.7823(d), did not exceed 20 percent and the second highest set of 6-minute averages did not exceed 10 percent; or b. The opacity of the highest set of 3-minute averages from each BOPF shop housing a top-blown BOPF, determined according to the performance test procedures in §63.7823(d), did not exceed 20 percent and the second highest set of 3-minute averages did not exceed 10 percent.

As required in §63.7833(a), you must demonstrate continuous compliance with the emission and opacity limits according to the following table:

Table 3 to Subpart FFFFF of Part 63. Continuous Compliance with Emission and Opacity Limits

For...	You must demonstrate continuous compliance by...
1. Each windbox exhaust stream at an existing sinter plant	a. Maintaining emissions of particulate matter at or below 0.4 lb/ton of product sinter; and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
2. Each windbox exhaust stream at a new sinter plant	a. Maintaining emissions of particulate matter at or below 0.3 lb/ton of product sinter; and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
3. Each discharge end at an existing sinter plant	a. Maintaining emissions of particulate matter from one or more control devices at or below 0.02 gr/dscf; b. Maintaining the opacity of secondary emissions that exit any opening in the building or structure housing the discharge end at or below 20 percent (6-minute average); and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).

4. Each discharge end at a new sinter plant	a. Maintaining emissions of particulate matter from one or more control devices at or below 0.01 gr/dscf; b. Maintaining the opacity of secondary emissions that exit any opening in the building or structure housing the discharge end at or below 10 percent (6-minute average); and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
5. Each sinter cooler stack at an existing sinter plant	a. Maintaining emissions of particulate matter at or below 0.03 gr/dscf; and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
6. Each sinter cooler stack at a new sinter plant	a. Maintaining emissions of particulate matter at or below 0.01 gr/dscf; and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).

7. Each casthouse at an existing blast furnace	a. Maintaining emissions of particulate matter from a control device at or below 0.01 gr/dscf; b. Maintaining the opacity of secondary emissions that exit any opening in the casthouse or structure housing the blast furnace at or below 20 percent (6-minute average); and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
8. Each casthouse at a new blast furnace	a. Maintaining emissions of particulate matter from a control device at or below 0.003 gr/dscf; b. Maintaining the opacity of secondary emissions that exit any opening in the casthouse or building housing the casthouse at or below 15 percent (6-minute average); and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).

9. Each BOPF at a new or existing BOPF shop	a. Maintaining emissions of particulate matter from the primary emission control system for a BOPF with a closed hood system at or below 0.03 gr/dscf; b. Maintaining emissions of particulate matter from the primary emission control system for a BOPF with an open hood system at or below 0.02 gr/dscf for an existing BOPF shop or 0.01 gr/dscf for a new BOPF shop; c. Maintaining emissions of particulate matter from a control device applied solely to secondary emissions from a BOPF at or below 0.01 gr/dscf for an existing BOPF shop or 0.0052 gr/dscf for a new BOPF shop; and d. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
10. Each hot metal transfer, skimming, and desulfurization operation at a new or existing BOPF shop	a. Maintaining emissions of particulate matter from a control device at or below 0.01 gr/dscf at an existing BOPF or 0.003 gr/dscf for a new BOPF; and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).

11. Each ladle metallurgy operation at a new or existing BOPF shop	a. Maintaining emissions of particulate matter from a control device at or below 0.01 gr/dscf at an existing BOPF shop or 0.004 gr/dscf for a new BOPF shop; and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).
12. Each roof monitor at an existing BOPF shop	a. Maintaining the opacity of secondary emissions that exit any opening in the BOPF shop or other building housing the BOPF or shop operation at or below 20 percent (3-minute average); and b. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).

13. Each roof monitor at a new BOPF shop	a. Maintaining the opacity (for any set of 6-minute averages) of secondary emissions that exit any opening in the BOPF shop or other building housing a bottom-blown BOPF or shop operation at or below 10 percent, except that one 6-minute period greater than 10 percent but no more than 20 percent may occur once per steel production cycle; b. Maintaining the opacity (for any set of 3-minute averages) of secondary emissions that exit any opening in the BOPF shop or other building housing a top-blown BOPF or shop operation at or below 10 percent, except that one 3-minute period greater than 10 percent but less than 20 percent may occur once per steel production cycle; and c. Conducting subsequent performance tests at least twice during each term of your title V operating permit (at midterm and renewal).

As required in §63.7850, you must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) shown in the following table:

Table 4 to Subpart FFFFF of Part 63. Applicability of General Provisions to Subpart FFFFF

Citation	Subject	Applies to Subpart FFFFF	Explanation
§63.1	Applicability	Yes.	
§63.2	Definitions	Yes.	
§63.3	Units and Abbreviations	Yes.	
§63.4	Prohibited Activities	Yes.	
§63.5	Construction/ Reconstruction	Yes.	
§63.6(a),(b), (c),(d),(e), (f),(g), (h)(2)(ii)- (h)(9)	Compliance with Standards and Maintenance Requirements	Yes.	
§63.6(h)(2)(i)	Determining Compliance with Opacity and VE Standards	No	Subpart FFFFF specifies Method 9 in appendix A to part 60 of this chapter to comply with roof monitor opacity limits.

§63.7(a)(1)-(2)	Applicability and Performance Test Dates	No	Subpart FFFFF specifies performance test applicability and dates.
§63.7(a)(3), (b),(c)-(h)	Performance Testing Requirements	Yes.	
§63.8(a)(1)-(a)(3), (b), (c)(1)-(3), (c)(4)(i)-(e), (c)(7)-(8), (f)(1)-(5), (g)(1)-(4)	Monitoring Requirements	Yes	CMS requirements in §63.8(c)(4)(i)-(ii), (c)(5) and (6), (d), and (e) apply only to COMS for electrostatic precipitators.
§63.8(a)(4)	Additional Monitoring Requirements for Control Devices in §63.11	No	Subpart FFFFF does not require flares.
§63.8(c)(4)	Continuous Monitoring System Requirements	No	Subpart FFFFF specifies requirements for operation of CMS.
§63.8(f)(6)	RATA Alternative	No.	
§63.9	Notification Requirements	Yes	Additional notifications for CMS in §63.9(g) apply to COMS for electrostatic precipitators.

§63.9(g)(5)	DATA Reduction	No	Subpart FFFFF specifies data reduction requirements.
§63.10(a), (b)(1)-(2)(xii), (b)(2)(xiv), (b)(3),(c)(1)-(6),(c)(9)-(15),(d), (e)(1)-(2), (e)(4), (f)	Recordkeeping and Reporting Requirements	Yes	Additional records for CMS in §63.10(c)(1)-(6),(9)-(15), and reports in §63.10(d)(1)-(2) apply only to COMS for electrostatic precipitators.
§63.10(b)(2)(xiii)	CMS Records for RATA Alternative	No.	
§63.10(c)(7)-(8)	Records of Excess Emissions and Parameter Monitoring Exceedances for CMS	No	Subpart FFFFF specifies record requirements.
§63.11	Control Device Requirements	No	Subpart FFFFF does not require flares.
§63.12	State Authority and Delegations	Yes.	
§63.13-§63.15	Addresses, Incorporation by Reference, Availability of Information	Yes.	

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